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DATES AND DATA

RELATIONS OF

RELIGIOUS ANTHROPOLOGY

AND

ETHICAL SOCIOLOGY



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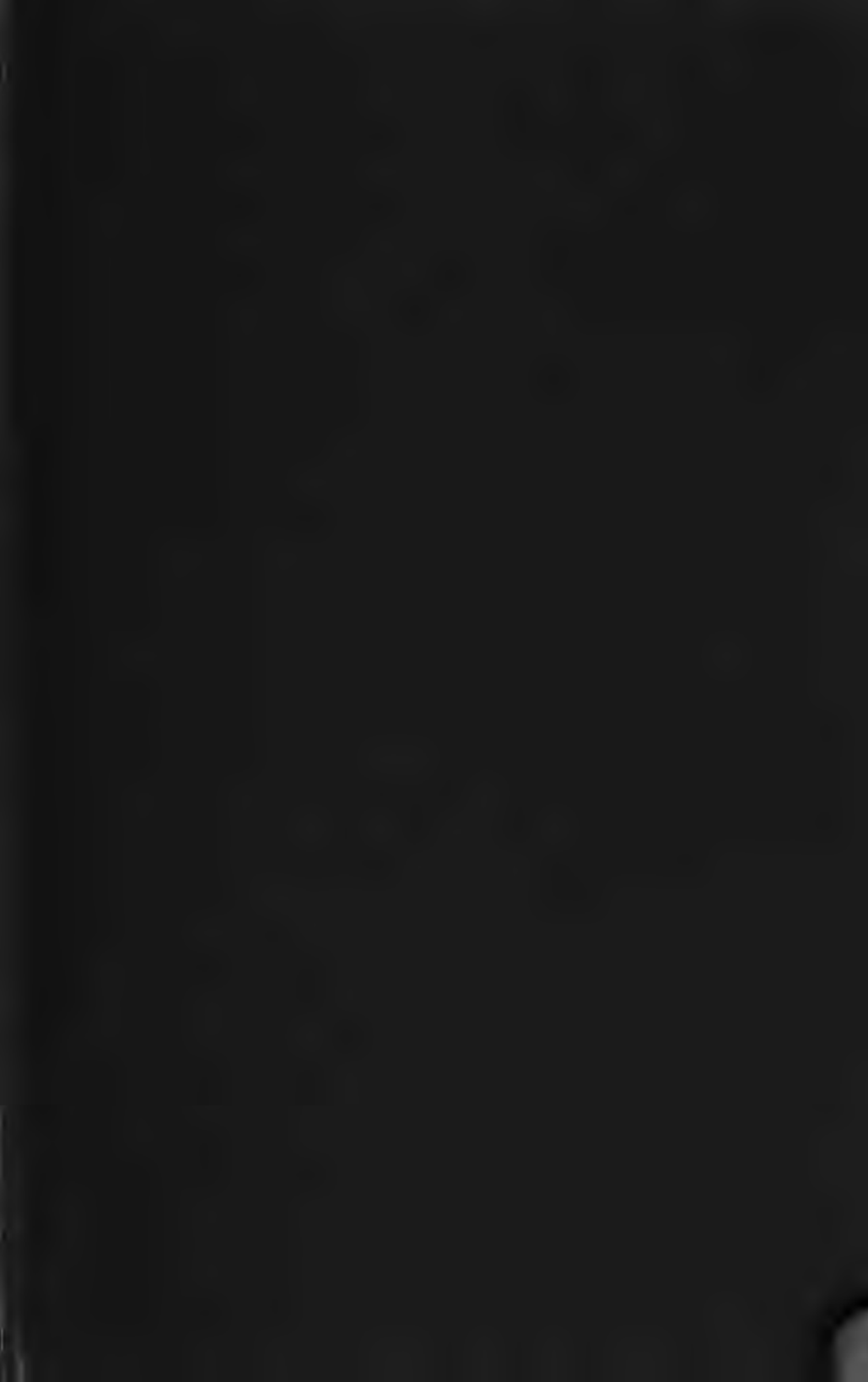
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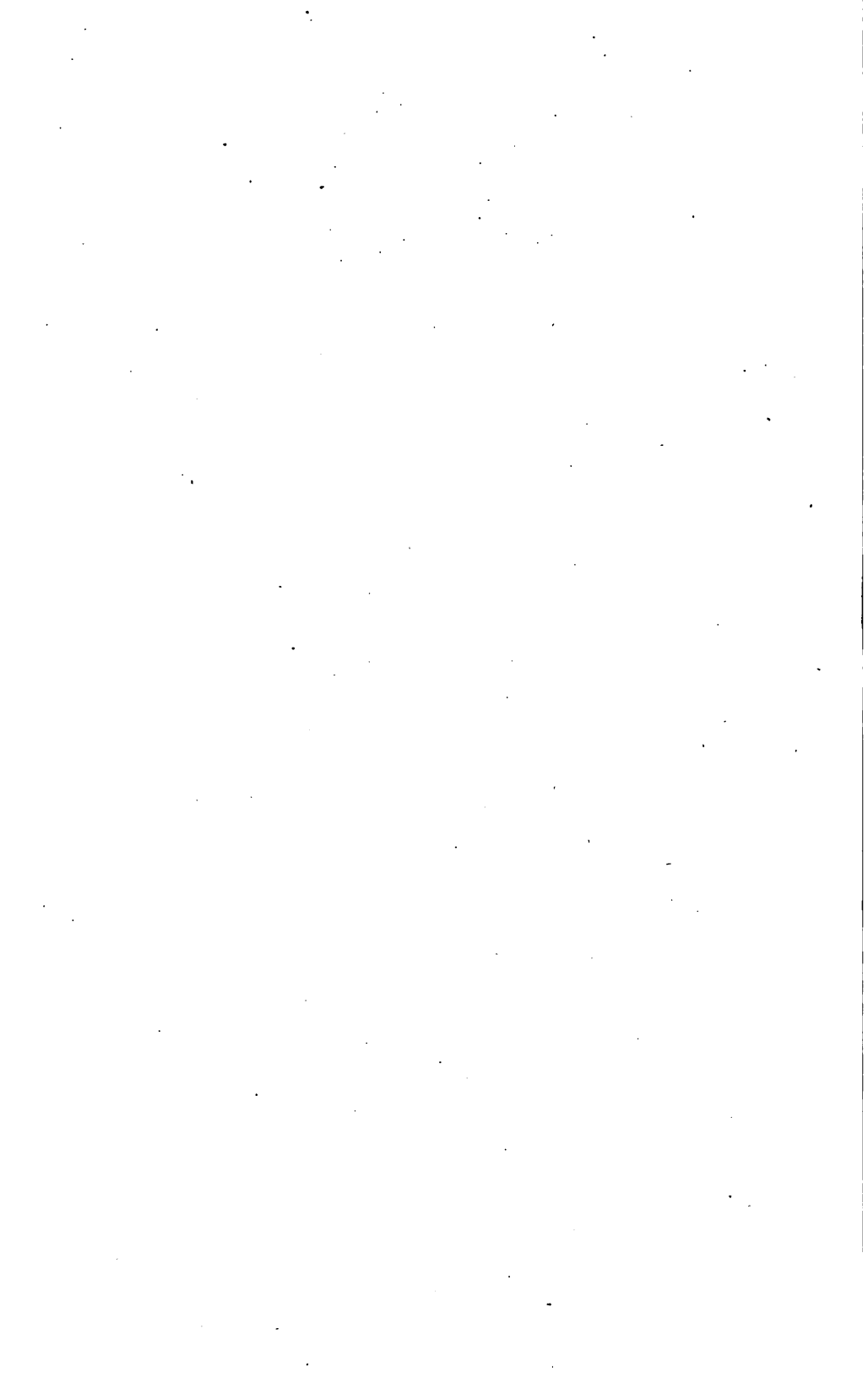
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ΑΚΡΟΓΩΝΙ

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DATES AND DATA
RELATING TO
RELIGIOUS ANTHROPOLOGY
AND
BIBLICAL ARCHÆOLOGY.

"It ought long ago to have been a settled point, that our present popular and school Chronology is a fable strung together by ignorance and fraud, and persisted in out of superstition and a want of intellectual energy."—*Egypt's Place in Universal History*, by C. C. J. (Baron) BUNSEN, vol. ii. p. 440; London, 1854.

"In such matters" [theological dogmas and religious practices] "mankind adheres with the greatest tenacity; and though modified and corrupted in the revolutions of ages, they still preserve features of their original construction, when language, arts, sciences, and political institutions no longer retain distinctive lineaments."—*Researches, Philosophical and Antiquarian*, by J. H. McCULLOCH, p. 225; Baltimore, U.S.A., 1829.

"It is an indispensable qualification of the true historian, that he shall be able to look dispassionately on myth as a natural product of the human mind, and to treat it as an accretion to be deducted from professed history, whenever it is recognised by the test of being decidedly against evidence as fact, and at the same time clearly explicable as myth."—*Primitive Culture*, by E. B. TYLOR, vol. ii. p. 405; London, 1871.

"One of the primary objects of every historical inquiry, and of every historical composition springing therefrom, is to distinguish the story from its foundation, or from that which occasioned it, and thus to discover the truth of what really occurred. The end to be attained is the knowledge of what truly happened; not what was only related and handed down by tradition, but that which was actually the fact."—*Geschichte des Volkes Israel bis Christus*, von HEINRICH EWALD, band i. p. 17; Göttingen, 1851.

"On the common and acknowledged principles of historical composition, the practice which has so much prevailed of commencing Church history with the ministry of Christ must be deemed unsatisfactory and improper. If the rise and progress of Christianity are to be understood as matters of history, the state of the Jews and surrounding nations in the preceding century [centuries?] should be fully defined."—*The Natural History of Enthusiasm*, by ISAAC TAYLOR, p. 203; London, 1832.

DATES AND DATA

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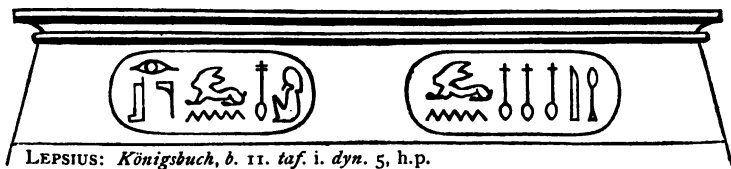
RELIGIOUS ANTHROPOLOGY

AND

Biblical Archæology.

(PRIMÆVAL PÉRIOD.)

THE DISTINCTIVE TITLE OF OSIRIS, NAMELY, ON-NOFRI, THE DIVINE GOODNESS,
WRITTEN IN TWO WAYS,
THE CROSS-LIKE SIGN EXPRESSING "GOOD,"—XPHETOS.



LONDON:

Published for the Author by

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P R E F A C E.

THE object of this work is to bring together, in consecutive order, under specific dates, some of the results of recent researches in Prehistorical and Biblical Archæology, and Comparative Mythology, with the view of attempting to furnish trustworthy materials for the advancement of the study of Religious Anthropology.

Whatever may be thought of the execution of the work,—and there is too much reason to fear that it will be found defective,—the author would fain hope that general approval will be given to its form, which, by obviating the necessity for continuity of discourse, conduces to conciseness of statement, and permits the insertion, irrespective of the context, of observations difficult to weave into a sustained argument. It is to be presumed that it has already been employed in some similar manner; the author is not, however, acquainted with any instance. Works on

systematic chronology, it is true, have this form, but their object is chronological only ; whereas the plan of the present book is to make the arrangement of subjects by consecutive dates, subserve another purpose.

Great pains have been taken to secure accuracy in the bibliographical references. The passages in connection with which they occur, are by no means, however, mere condensations of matter contained in the works referred to or indeed in any works. On the contrary, while adhering scrupulously to conformity of statement as to facts, they will be found, like the rest of the book, often to exhibit totally different views of the subjects under consideration, and always to be independent, if not original, as regards the interpretation of the relations, phenomena, and events, which are passed under review.

The present volume, embracing the Primæval Period, forms a work complete in itself. The sequel will consist of three equally complete volumes, treating severally :—The Proto-historical Period ; The Classical Period ; The Post-Classical Period.

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ERRATA.

Page 20,	line 12 from top	, for "brick-pit," read "brick-earth-pit."
" 35,	" 22 " "	" " floor of the stalagmitic," read "floor of stalagmitic."
" 42,	" 11 " "	, from "great rivers," strike out "great."
" "	" 7 " "	bottom, for "between," read "near."
" 52,	" 2 " "	" individualisms," read "individualities."
" 54,	" 7 " "	" have being," read "have been."
" 57,	" 20 " "	top " Egyptiacæ," read "Aegyptiaca."
" 59,	" 10 " "	" 2121," read "1928."
" 62,	" 6 " "	" Ahuehueté," read "Oculan."
" "	" 11 " "	bottom, " 3397; 3350," read "3533; 3400."
" "	" 12 " "	" indication," read "indiction."
" 64,	" 6 " "	top " Avenue," read "Avennes."

DATES AND DATA

RELATING TO

RELIGIOUS ANTHROPOLOGY

AND

BIBLICAL ARCHÆOLOGY.



B.C. 14,000. 1.—The Falls of Niagara, situated three miles northward of their present site (A.D. 1876). The water-worn gorge, which extends below the Falls to Lake Ontario, is nearly seven miles in length, with bounding cliffs 350 feet high, while the rock over which the river is precipitated has been variously estimated to wear away at the rate of from one inch to one foot per annum. Assuming the latter estimate, which would require the shortest time, to be the average rate of wearing away, the Niagara Falls must have been in existence fully 36,000 years. (*Travels in North America*, by Charles Lyell, vol. ii, p. 34 ; London, 1845.)

2.—The time necessary for the formation of the Niagara gorge, sinks into insignificance, when compared with that required to produce the Great Cañon of the Colorado, California. This stupendous chasm is 500 miles in length, with perpendicular sides varying in height from 3,000 to 5,000 feet, and in width from 200 to 1,000 yards, and hollowed out of the solid rock by the erosive action of the stream flowing in it, which has cut through all the sedimentary strata and several hundred feet into the granite underneath. (*New Tracks in North America*, by W. A. Bell, vol. i, pp. 45, 46 ; London, 1869.)

B.C. 12,500. 1.—The Delta of the Nile in a comparatively early stage of its formation. The method of calculation whereby this is ascertained consists in measuring the depth of the alluvium which has been deposited by the Nile around monuments of known age, as,

for instance, the Colossus of Rameses II., near the site of the temple of Ptah, at Memphis, and the Nilometer of Septimius Severus, estimating thereby the rate at which the deposit takes place, and dividing the total depth of the alluvial strata by the amount of secular deposit. The numerous borings made in the southern part of the Delta, between the years 1849 and 1854, by Mr. Leonard Horner and the Egyptian engineer, Hekekyan Bey, under the auspices of the Royal Society, and liberally seconded by the Khedive of Egypt, have proved that the alluvium has a depth of 60 feet; while the rate of deposition obtained was found to be, by the above method, from three and a half to five inches per 100 years. The latter and more rapid rate being adopted, the Delta of the Nile must have been forming during 14,400 years, at least. No evidences of an age of stone implements were found, and all the animal remains exhumed in the course of these excavations were those of extant species. (*Philosophical Transactions of the Royal Society*, 1858, pp. 53-86. *Herodotus*, ii, 12.)

2.—These computations are corroborated by the calculations that have been made as to the length of time necessary for the deposition of the alluvium of the Mississippi Delta, which, in some places, is more than 600 feet thick. Sir Charles Lyell's estimate gives 33,500 years, while that made by other observers extends the period to 100,000. (*A Second Visit to the United States*, by Charles Lyell, vol. ii, p. 250; London, 1849. *Types of Mankind*, by J. C. Nott and G. R. Gliddon, p. 336; London, 1854.)

3.—It is obvious that every estimate, however accurate it may be, of the length of time during which a fluvatile delta has been forming, must utterly fail to afford any adequate idea of the geological history, as regards duration, of the valley to which the delta belongs, because the processes of formation and accumulation of soil to be washed down and conveyed by the river to its embouchure for deposition there, must have extended over an immense period. During very many centuries after the final demarcation of a great river-bed, there could hardly be any soil at all to be washed away. This circumstance, moreover, is of a nature to render it almost certain that calculations as to the age of fluvatile deltas, when based on ascertained modern rates of deposition, are all under the truth.

4.—The evidence furnished by the above observations, made towards the northern extremity of the Nile, in favour of the great length of time during which the Egyptian Delta has been forming,

is confirmed, in a remarkable manner, by evidence from the southern extremity of Egypt. Some little way below the island of Philæ, there are seen, during the period of low Nile, rising from the river-bed, huge granite rocks, whose surfaces are coated with a dark incrustation, derived from the contact and adhesion of the particles of black mud or soil* which are suspended in the waters of the inundation. When viewed from Philæ, these dark masses of rock are perceived to bear scutcheons containing the names of various Pharaohs, which, though exposed to the same influences, are hardly at all discoloured. Some of these are of the age of Thothmes III., who, according to the chronological reckoning of Brugsch, which is the one we intend generally to follow, reigned in Egypt from B.C. 1622 to 1574, or fully 3,444 years ago, counting from 1870.—See B.C. 5004, 5. That number of years having been insufficient to communicate so slight a degree of colour to the tooled surfaces of the inscriptions, it is evident that an enormous series of ages must have been required to cause the almost black hue of the natural surfaces. Belzoni was the first to call attention to these facts, which have, since, been almost entirely overlooked, but have been confirmed by the personal observation of the present writer. (*Researches and Operations in Egypt and Nubia*, by G. B. Belzoni, vol. ii, pp. 120, 121; Lond., 1820.)

5.—Similar results are obtained from the study of the progress of disintegration of the rocks in the Syène quarries in the vicinity of Philæ. Two thousand years, at least, must have elapsed since the most recent of the wrought surfaces were made. They are, nevertheless, at this day, almost as fresh in colour, and quite as firm in texture, as those that are now exposed by breaking the granite whereas, the natural surfaces of the rocks in the quarries present a much darker aspect, and are, in many places, covered with a layer of half-disintegrated stone which is easily scaled off. Indeed, the soil in the quarries is almost entirely composed of disintegrated granite, which must have been derived from the gradual decay of the rocks, exposed in their present situation during countless ages, to the decomposing influence of the weather.

* To the deposition over the entire surface of Egypt of this dark mud was due the antique native name of the country, Chemi, Cham or Ham, "black," which afterwards became the Biblical name of one of the three post-diluvian progenitors of the human race,—carrying with it a vague impression that he was of black blood. But in Chemi-land or "Blackland" (Egypt), although the soil was black, the people were not: they were of a peculiar reddish-brown colour.

6.—The observations pursued by M. Bertrand Roux during many years at Puy-en-Velay afford important evidence of the same kind, in respect to the volcanic rocks of that district. He infers the extreme antiquity of even the most recent of these rocks, from the vast amount of substance which has been disintegrated and carried away from their natural surfaces, as contrasted with the imperceptible degree of decay which has taken place on surfaces of the same rocks that were formed in making the Roman roads, none of which can be less than 1,300 years old. (*A Description of Active and Extinct Volcanoes*, by Charles Daubeny, p. 60; Lond., 1848.)

B.C. 12,053.—Settled government constituted in Egypt, according to the account given to Herodotus at the time he was there as a traveller, about the year B.C. 450, by the Egyptian priests, who informed him that three hundred and forty-five generations of men, estimated to be equal to 11,340 years, had elapsed between the reign of the first king and that of Sethos, priest of Vulcan (713 B.C.), showing him, in support of the statement, that number of effigies of priests who had followed each other in regular succession. (Herodot., ii, 143, 144.)—See B.C. 8570; 7500, 7.

B.C. 10,000. I. 1.—Flourishing as old communities in the west of Europe, and also in many other regions long since become the seats of civilization, under climatic conditions and a relative configuration of land and water totally different from those of the present, the uncultured races of men whose remains, consisting for the most part of roughly-chipped flint hatchets, spear-heads, and unbarbed arrow-points,—more rarely of stone objects of fantastic shape, possessing resemblances to men, animals, and human products, and which were probably fetishes,* and, in some few instances, of human bones,—are found deeply embedded in the “drift” or alluvial gravel, with teeth and bones of the mammoth or hairy elephant, woolly rhinoceros, mastodon, and some other extinct quadrupeds. To fossil remains of this character, the name palæolithic has been given to distinguish them from those belonging to a subsequent phase of culture, consisting chiefly of polished stone implements, to which the term neolithic has been applied. The former being connected with a certain geological epoch, are of much

* *Antiquités Celtiques*, par Jacques Boucher de Crève-cœur de Perthes, vol. i, pp. 439-461; Paris, 1847.

more definite date than the latter, which, in some regions, were soon superseded by the discovery or introduction of metals, whilst in others they have maintained themselves to the present time. (On the Manufacture of Stone Implements in Prehistoric Times, by John Evans: *Trans. Internat. Congr. Prehist. Archæol.* 1868, p. 193; Lond., 1869.)

2.—We are indebted to the sagacity and untiring perseverance of the late M. Boucher de Perthes for the long series of observations which has resulted in placing beyond doubt the existence of the drift men. His researches were commenced at a place called Portelette, as early as the year 1837, and carried on subsequently in the gravel-pits of the Somme, near Abbeville, and particularly at Menchecourt, where, in 1844, he caused to be formally witnessed the discovery of several wrought flints in an undisturbed bed, at the depth of 14 feet under the present surface. Continued with little interruption from year to year, the labours of M. Boucher and their results first attracted general attention in 1859. In that year the circumstances attending the finding of the flint implements, which were constantly being turned up by the workmen employed in the gravel-pits of Menchecourt, Hôpital St. Gilles, Mautort, and Moulin-Quignon, were carefully investigated on the spot by a considerable number of eminent scientific men, and the genuineness of those implements universally admitted.* When, however, M. Boucher, four years later, announced the discovery at Moulin-Quignon of a human jaw-bone, under the same circumstances as the flint implements, the accuracy of his statements regarding the evidences of its antiquity were hastily and warmly called in question by certain geologists of Biblical proclivities, who were particularly clamorous in England, although it was only

* Among the English men of science who visited Abbeville for the purpose of this investigation were Messrs. Evans and Prestwich, both of whom soon afterwards wrote in support of M. Boucher de Perthes. The former concluded as follows the paper which he read on the subject before the Society of Antiquaries of London:—"Under any circumstances this great fact remains indisputable, that at Amiens, land, which is now 160 feet above the sea, and 90 feet above the Somme, has, since the existence of man, been submerged under fresh water, and an aqueous deposit from twenty to thirty feet in thickness, a portion of which at all events must have subsided from tranquil water, has been formed upon it; and this too has taken place in a country the level of which is now stationary, and the face of which has been but little altered since the days when the Gauls and Romans constructed their sepulchres in the soil overlying the drift which contains these relics of a far earlier race of men." (On the Occurrence of Flint Implements in Undisturbed Beds of Gravel, Sand, and Clay, by John Evans: *Archæologia*, vol. xxxviii, p. 307.)

natural to expect that, so many human works having been discovered, the bones of some of the men who made them might any day be brought to light.* But in the interval which had elapsed since the admission of the genuineness of the drift implements, the susceptibilities of the English religious public had been roused by the publication of Bishop Colenso's criticisms on the Pentateuch, and a strong motive created for calling in question and rejecting everything which might have the appearance of invalidating the Mosaic cosmogony. Nevertheless, when all was said, the authenticity of the Moulin-Quignon jaw-bone was fully established by an Anglo-French scientific commission, which had been formed to investigate the subject, the only dissentient voices in it being those of a small English minority. The report of this commission, drawn up by Professor Milne-Edwards, completely confirmed all that had been advanced by M. Boucher, and finally placed among well-ascertained facts the genuine character of the jaw-bone in question. It was proved, to the satisfaction of the commission, that this vestige of a human drift-skeleton was observed on the 28th of March, 1863, at Moulin-Quignon, projecting from a freshly-exposed vertical surface of the gravel bank, by one of the quarrymen, who, without withdrawing it from its matrix, sent for M. Boucher, and that he, on his arrival, removed it from its bed with his own hand. The position of the jaw-bone was in the undermost of the five superimposed layers of gravel and clay, which here cover the chalk, and form the drift deposit, wherein flint hatchets had frequently been found, at a depth of thirteen feet beneath the present surface of the ground, and

* The osseous remains of these and other primeval peoples would be oftener encountered, but for the circumstance that the preservation and fossilization of bones is rare and exceptional. In order to have any chance of being preserved, interred bones must either be shut up in a way entirely to exclude the air, or else be situated within the influence of moisture, which, by gradually removing the organic constituents, may reduce them, as it were, to the state of mineral, with sometimes substitution of calcareous or siliceous matter. The Roman catacomb tombs, which are horizontal niches cut out of the rock and individually secured with a cemented stone slab, when opened have been found to contain, instead of bones, only lines of ashes corresponding to the figure of the skeleton, with here and there interspersed small morsels of the larger and more solid bones, and at the head the enamel portions of the teeth. This is an illustration of what takes place in all situations whereto air, even in extremely minute quantities, has access, which is the case more or less with most kinds of soil. Were it an ordinary thing for bones to be preserved underground, there would be met with at every step the remains of some of the countless thousands of millions of animals, human and other, which have subsisted on the earth.

half a yard below fragments of the tooth of a mastodon. (Milne-Edwards : Comptes rendus de l'Académie des Sciences, May 18, 1863, t. lvi, pp. 921-945.)

3.—The former discoveries of M. Boucher de Perthes were, as early as the year 1853, confirmed by the parallel explorations of Dr. Rigollot, who succeeded in disinterring flint implements of the same description from the gravel-pits of St. Acheul, near Amiens. Stimulated by the finding of the Moulin-Quignon jaw-bone, the former gentleman kept his attention closely directed to the gravel-pits in the vicinity of Abbeville ; and in the latter part of the year 1863, and during 1864, was rewarded by the further discovery of a considerable number of human bones, comprising sixteen well-preserved teeth, intermixed with bones of various animals. In order to remove all doubt as to their true character, he caused the throwing down of the gravel-banks and search for the remains that might be brought to light, to be conducted by a committee composed of members of the Société d'Emulation d'Abbeville and several well-known men of science of the locality, among whom were Dr. Jules Dubois and Professor Girot. In conjunction with these gentlemen, he had the good fortune to turn up, at Moulin-Quignon, a second human jaw-bone from an undisturbed stratum of gravel and clay, situated at a depth of 25 feet under the present surface, and lying beneath some bones of *Rhinoceros tichorhinus* and *Bos primigenius*.* This second drift jaw-bone has been deposited, along with the former one, in the Museum of the Jardin des Plantes, Paris. (Mémoires sur des Instruments en Silex trouvés à St. Acheul près d'Amiens, par le Dr. Rigollot ; Amiens, 1855. De la Mâchoire humaine de Moulin-Quignon et nouvelles Découvertes, par Jacques. Boucher de Crève-cœur de Perthes ; Paris, 1864. Comp. rend. Acad. Scien., July 18, and August 1, 1864, t. lix, pp. 107-111 and 226, 227.)

4.—The results of these operations in the valley of the Somme,

* In presenting the *procès-verbaux* of the proceedings of this committee to the Académie des Sciences, at its sitting of August 1, 1864, M. de Quatrefages made the following observations :—"Il résulte de ces procès-verbaux, que toutes les précautions les plus minutieuses ont été prises pour s'assurer de l'intégrité des terrains et de l'impossibilité de toute fraude. La sévérité du contrôle et de la surveillance était d'autant mieux assurée que, parmi les témoins appelés par M. de Perthes, se trouvaient quelques personnes qui professaient hautement la plus grande incrédulité relativement à la réalité des découvertes qu'il s'agissait de constater. Ces personnes, convaincus par les faits, ont signé les procès-verbaux aussi-bien que celles dont les convictions résultaient d'observations antérieures."

and the interpretation put upon them by M. Boucher, have been amply confirmed by numerous observations in other regions, and corroborated by the whole course of palæontological research. The following are some of the most authentic of such observations, arranged in the order in which they were made :—

A.—The Sloane collection, now in the British Museum, contains a flint implement, which is thus described in the catalogue :—
“No. 246. A British weapon, found with elephant's tooth opposite to black Mary's, near Graye's inn lane [about the year 1720]—Conyers. It is a large black flint, shaped into the figure of a spear-point.”

B.—In the year 1797, Mr. John Frere communicated to the Society of Antiquaries of London an account of some rough flint weapons which he had discovered at Hoxne, Suffolk, in a pit which was worked for brick-earth. They were situated in a deposit of stratified gravel, which was covered by beds of clay and sand, mingled with marine shells, at a depth of 12 feet from the surface, and were so numerous as to produce from five to six flints per square yard. Gigantic bones of an unascertained species of quadruped had previously been found in the same deposit. Mr. Frere's communication was accompanied by a figure of one of the weapons, which was copied and reproduced by engraving in the printed proceedings of the Society of Antiquaries. The significance of this discovery not having been recognized at the time, the paper in which it was announced attracted no particular attention, and continued to be overlooked until the year in which M. Boucher's discoveries began to receive notice, namely 1859. It was then brought to light, and by the remarkable correspondence of its statements with those of M. Boucher, in no small degree contributed to the credit which was soon afterwards accorded to the latter in this country. When the engraving, with which Mr. Frere's paper was illustrated in the printed proceedings of the Society of Antiquaries, was compared with some of those which had been independently published by M. Boucher, it was easy to see that they both referred to the same kind of object. (Account of Flint Weapons discovered at Hoxne, in Suffolk, by John Frere : *Archæologia*, vol. xiii, pp. 204-5.)

C.—M. Ami Boué, in 1823, disinterred with his own hands at Lahr, Baden, many bones of a human skeleton, including femur, fibula, ribs, vertebræ, and metatarsals, but no cranium, from denuded brick-earth of very consolidated character, which is there 200 feet

thick. The spot where those bones were found was situated 100 feet above the level of the adjacent stream. The amount of denudation which was observed proved them to have been buried to the depth of 80 feet. In a similar situation, not far off, there had been discovered bones of extinct species of mammalia. (Geological Evidences of the Antiquity of Man, by Sir Charles Lyell, Bart., pp. 532-3; Lond., 1863.)

D.—Flint spear-heads, arrow-points, axes and knives, morsels of charcoal and ashes, were found in the year 1838 by Dr. Albert K. Koch, of Louisville, U. S. A., nine feet beneath the present surface, at a place on the bank of the Burbois river, in Gasconade county, Missouri, during the disinterment of a skeleton of *Mastodon Ohioticus*, or *giganteus*, which exhibited evidences of having been extensively acted on by fire. Arrow-heads of flint, to the number of five, associated with the skeleton of the *Mastodon Ohioticus* now in the British Museum, and bones and teeth of several other individuals of the same species, were discovered in 1840 by Dr. Koch, embedded in brown sandy deposit, covered by layers of gravel and blue clay, of the thickness of 15 feet, near Pomme-de-Terre river, in Benton county (lat. 40° N., long. 95° W.), Missouri. One of the arrow-heads lay beneath the hind-leg bone of a mastodon. (Petrifactions and their Teachings, by G. A. Mantell, p. 473; Lond., 1851.)

E.—In a gravel-pit at Ponte Mammolo, in the valley of the Anio, some few miles from Rome, Sig. Luigi Ceselli, in the years 1846-47-48, and subsequently, discovered a considerable number of bones and teeth of extinct quadrupeds associated with a variety of flint implements and weapons, and gave an account of his discoveries in a paper which he read, in 1853, before the Accademia dei Quiriti. The bones found belonged for the most part to the cave-tiger and cave-hyena, three species of mammoth, and three of woolly rhinoceros; and the flints consisted of arrow-points, spear-heads, knives, scrapers, axes, hammers, and wedges. Most of these objects were at a depth of not less than 60 feet underneath the present surface of the ground, in the lowermost of two superimposed beds of rough breccia, each being surmounted by many successive layers of marl, sand, and clay. Sig. Ceselli's discoveries have been confirmed by the independent operations carried on at Ponte Molle in 1864-5 by Dr. Bleicher, a French army surgeon, and by other discoveries of flint implements at Monte Sacro, Acqua Traversa, Tor di Quinto, and elsewhere in the Roman Campagna. (Roman Flint-sparks, by R. S. C. Chermiside; *Macmillan's Magazine*, Sept., 1867, p. 353.)

F.—As has been stated, Messrs. Evans and Prestwich, in the year 1859, visited Abbeville for the purpose of investigating the circumstances attending the finding of the drift implements, and came away satisfied of the accuracy of M. Boucher's statements. Their confidence in what they were told and shown was finally established by their having an opportunity of extracting for themselves a flint weapon from its bed in undisturbed drift-gravel, at a depth of 17 feet under the surface, and $6\frac{1}{2}$ feet above the chalk. On their return to England, they proceeded to Hoxne, in order, if possible, to verify the observations of Mr. Frere, and by that means to throw light on the Picardy discoveries. Without any difficulty they found the old brick-pit which had been the scene of his operations. On inquiry, they learned that flint implements and gigantic bones continued occasionally to be found in the pits which are now being worked, and that they were well known in the district. An old workman, to whom they showed one of the Somme flints, which they had brought with them from France, at once recognized it as one of the things he sometimes encountered in the brick-pits. After digging several trenches in the neighbourhood of the old pit, they were rewarded with several flint implements; and Mr. Prestwich, on one occasion, when accompanied by Mr. J. W. Flower, had the satisfaction of observing *in situ*, at a depth of 22 feet under the surface, and just above the boulder-clay, a fine specimen, and disinterring it with his own hands. Much valuable assistance in the prosecution of the inquiry was obtained from Mr. T. E. Amyot, of Diss, who has a large collection of the fossils of the district, and who has frequently witnessed the finding of flint implements. (On the Occurrence of Flint Implements associated with the Remains of Animals of Extinct Species, by Joseph Prestwich : *Philos. Trans.*, vol. cl, p. 277, 1860.)

G.—In the year 1860, Mr. James Wyatt found at Biddenham, in the valley of the Ouse, near Bedford, several palæolithic flint implements, along with bones of mammoth and rhinoceros, in a bed of gravel which lay on the solid oolite rock, under 13 feet of stratified sand and clay containing large granite stones of the northern boulder drift. (Lyell : *Geol. Evid. Antiq. of Man*, p. 163.)

H.—There were discovered, in 1863, embedded in old fluvialile alluvium of the Avon, overlaid with drift deposits, a considerable number of flint implements in juxtaposition with remains of animals of species which are extinct or have long since retreated to the sub-arctic regions. Three flints of well-defined form, and several

flakes, were exhumed near Bemerton New Church. At Fisherton, near Salisbury, Dr. H. P. Blackmore found and removed from underneath the bones of a mammoth, a genuine drift implement. The gravel in this locality is composed chiefly of chalk flints, with a few greensand pebbles and tertiary sandstone blocks, in a red clayey matrix almost unstratified, and seldom exceeds twelve feet in thickness. (On some Recent Discoveries of Flint Implements in Drift Deposits in Hants and Wilts, by John Evans: *Quart. Jour. Geol. Soc. Lond.*, 1864, vol. xx, p. 188.)

I.—In May, 1863, Mr. James Brown, of Salisbury, discovered flint tools between Gosport and Southampton in a drift bank, situated 35 feet above high-water level, and in circumstances showing, unequivocally, a totally different state of the physical geography of the locality from that of the present day. (The Principles of Geology, by Sir Charles Lyell, Bart., 10th ed., vol. ii, p. 561; Lond., 1867.)

J.—In 1863, Mr. G. S. Poole exhumed from the sand-banks of the Bridgewater Level, which are composed of successive strata of clay, marl, sand, and peat, at a depth of 28 feet below the surface, pottery and human bones, together with the remains of a mammoth and an extinct species of rhinoceros, which animals had evidently lived at a period subsequent to the submergence of the human remains. (On the recent Geological Changes in Somerset, and their Date relatively to the Existence of Man, and of certain of the Extinct Mammalia, by G. S. Poole: *Quar. Jour. Geol. Soc. Lond.*, 1864, vol. xx, p. 118.)

K.—Professor Cocchi, of Florence, in 1866, discovered in a railway-cutting at Col d'Olmo, near Arezzo, in proximity with two roughly-chipped flint implements, a human skull, embedded at a depth of 48 feet in a stratum of lacustrine marl, which was covered with irregular layers of gravel and alluvium, wherein, six feet above the skull, was found a mammoth tusk. (*L'Uomo fossile nell' Italia centrale*, da Igino Cocchi; Milano, 1867.)

L.—A rough flint implement was disinterred on 8th February, 1868, by Mr. Thomas Codrington, from the drift bank which exists on the top of the Foreland Cliff, five miles south-east of Ryde, whence the remains of the mastodon are occasionally obtained. (Lyell: *Princip. of Geol.*, 10th ed., vol. ii, p. 562.)

M.—Towards the close of the year 1868, M. Bertrand discovered a quantity of fossil human remains in the quaternary drift at Clichy, near Paris, at a depth of 17 feet, and covered by alter-

nating layers of gravel, red sand, brick-earth, and clay. The human bones were associated with those of mammoth, rhinoceros, and hippopotamus. (*Medical Times and Gazette*, Jan. 9, 1869.)

5.—All of the above discoveries are instances of man's bones, or his works, having been found with remains of extinct quadrupeds, in such a way as to show that both were interred at the same time. Of instances of flint implements without extinct animal remains, a much larger number, and gathered, in great part, from widely distant lands, such as India, South Africa, Japan, &c., might have been given, but they would have lent little or no support to the more important cases above specified, which are all not only well-authenticated but recorded with sufficient detail. (On the Distribution of Stone Implements in Southern India, by R. Bruce Foote: *Quar. Jour. Geol. Soc. Lond.*, June, 1868, p. 484. On Stone Implements from the Cape of Good Hope, by George Busk: *Trans. Internat. Congr. Prehist. Archæol.*, 1868, p. 69; *Lond.*, 1869. Notes on the Discovery of Stone Implements in Japan, by A. W. Franks: *Trans. Internat. Congr. Prehist. Archæol.*, 1868, p. 258.)

6.—They all, likewise, belong to the post-pliocene or quaternary series of deposits; but the observations of M. Desnoyers and the Abbé Bourgeois, who discovered in the upper pliocene strata of St. Prest, near Chartres, bones of *Elephas meridionalis* and *Rhinoceros leptorhinus*, engraved with figures of animals, and those of the Abbé Delaunay, who disinterred, together with flint implements, from the upper miocene of Pouancé (Maine-et-Loire) and of Thenay (Loire-et-Cher), bones of a fossil cetacean, marked by transverse notches made with a cutting instrument, and stone weapons from the tertiary calcareous fresh-water deposits of Orleans, seem to indicate that it may become necessary to extend the period of man's existence on the earth, and to admit that the human species was coeval with the formation of the tertiary strata, and, consequently, of almost inconceivable antiquity. (*Trans. Internat. Congr. Anthropol. Paris*, 1867.)—Analogous discoveries have been made by the Marquis de Vibraye in the miocene strata of Selles-sur-Cher (Loire-et-Cher), and by M. Issel, in the pliocene at Calle del Vento, near Savona. (*L'Homme fossil en Europe*, par H. le Hon, p. 25; Paris, 1868.)—Mr. James Matson, in the year 1867, discovered the anterior and basic portions of a human skull at Altaville, near Angelos, Calaveras County, California, in a mining-shaft, at a depth of 130 feet below the surface, and embedded in a stratum of undisturbed tertiary gravel, five feet in thickness, above which lay four beds of volcanic

tuff, alternating with deposits of gravel, whereof one was 25 feet thick. The base of the skull was incorporated with a mass of bone breccia, and the other parts were covered with an incrustation of carbonate of lime. These facts were communicated by Professor J. D. Whitney to the California Academy of Sciences. The skull has been deposited in the office of the State Geological Survey. (*Anthropological Review*, January, 1868, p. 119. *Trans. Chicago Acad. Scien.*, vol. i, p. 2.)—In the Records of the Geological Survey of India for 1868, Dr. Oldham described an agate flake of human workmanship, which was found by Mr. Gwynne in undisturbed pliocene deposits of the Upper Godavery. (*Athenæum*, July 16, 1870.)

7.—It has been supposed by many highly competent authorities that the "fossil man of Denise," which was found by M. Aymard, in the year 1844, embedded in a stratum of consolidated volcanic tuff near Le Puy (France), in company with bones of hippopotamus and cave-bear, and deposited in the museum of that place, is of equal antiquity with the tertiary formations. So probably also is the fossil human skeleton in the museum of Quebec, which was dug out of the solid schist whereon the citadel of that place stands; and the same may be said of the large number (several hundreds) of human skeletons which were discovered by Captain Elliott and Dr. Meigs, in the side of a hill at Santos, in Brazil, in the year 1827, embedded in calcareous tuff rock, containing serpulæ and other marine shells, and covered with soil bearing a growth of large trees. The museum of the American Philosophical Society at Philadelphia possesses a specimen of the latter rock, with human skull, teeth, and other bones. (*Bull. Soc. Géol. de France*, 1844-5, pp. 107-10. *Trans. Amer. Philos. Soc.*, 1828, p. 285.)

8.—The similarity which the stone implements of the drift present to some now in use among savages, furnishes the key to the manners and customs of the European prehistoric man of this period. He undoubtedly was a savage, not only in his behaviour and mode of life, but also in his views of nature and of himself. From his tools and weapons alone this was to be deduced with certainty; but the discovery, by Boucher de Perthes, of fetish-like objects among the remains of the Picardy drift-men, has afforded additional evidence that his superstitions were the same which prevail among modern savages. However much they may vary in matters of detail, such as names, savage superstitions are characterized by a remarkable correspondence of system. Just as uncultured man, in all situations,

has adopted the same interpretations of the great cosmical phenomena, such as that the earth is flat, the sky a solid dome, and the sun and moon are lights or lanterns subservient to human wants, so is he always found interpreting, on a uniform method, biological phenomena. Feeling that his own individual life centres in his will and mental energy, and that these work, under his undivided control, without show or noise, he forms the conception of a subtle, invisible, and intangible personal power—spirit or soul in short—dwelling in him, and forming the essence of his mind and volition. Having no notion of the existence of impersonal force in matter, he explains by means of this power which is within him, every manifestation of energy in nature, and even attributes the capacity of possessing it to all things characterized by any degree of individuality.* Objects calculated by their aspect or behaviour to excite wonder or fear become specially marked as the habitations of powerful spirits or Gods; the caprice of individuals, or some fortuitous circumstance, such as the fancied first recognition by a young savage of his guardian spirit in a certain object, nevertheless, frequently causing to be singled out for veneration things possessing little or no appearance of being worthy of remark. The variety of such objects is unlimited, for personality, according to this view of the constitution of things, to which the word animism has been applied as a general term, belongs to all nature. Among those which have attracted most notice may be mentioned remarkable trees, peculiar stones, rocks, caves, chasms, fountains, rivers, serpents and many kinds of animals, the “four elements,” and the heavenly bodies, especially the sun and moon.

9.—It will help to complete the view of the steps by which the uncultured mind arrives at animism, to quote from an able and original writer in an influential contemporary periodical. “The absence of scientific knowledge,” says this author, “nowise implies an absence of speculation; it rather necessitates the presence of a great amount of it.† Some explanation of the phenomena of life a

* This propensity of the savage man to see his own humanity reflected in natural phenomena survives in cultured societies, and exhibits itself in that irresistible tendency to personification which is displayed wherever feeling predominates over reason, as in the child, and also in the adult when under the influence of the poetic impulse.

† Although savages are in general very good observers of the peculiar appearances and changes which are noticeable in natural objects, they are universally at fault in their speculative explanations of phenomena. In the latter respect, the

man must feign for himself ; and, to judge from the universality of it, the simplest hypothesis and the first to occur to men seems to have been that natural phenomena are ascribable to the presence in animals, plants, and things, and in the forces of nature of spirits, prompting to action, such as men feel themselves to be possessed of. So far as we know, this has been, at some time or other, the faith of all the races of men ; and again, so far as we know, it is a faith that has been nowhere given up as unsatisfactory, otherwise than gradually, on its being perceived, from case to case, that the behaviour of the forces of nature and of the bodies they act upon is not wayward nor wilful, but conformable to law, nor until the law has been ascertained. This animation hypothesis lies at the root of all the mythologies. It has been called fetishism, which, according to the common account of it, ascribes a life and personality resembling our own, not only to animals and plants, but to rocks, mountains, streams, winds, the astral bodies, the earth itself, and even the heavens."* (The Worship of Animals and Plants, by J. W. McLennan : *Fortnightly Review*, October, 1869, p. 422.)

illiterate and uninstructed multitude in so-called civilized states are on a par with them ; but in their powers of observation the latter are unfortunately very inferior. This radical mental defect in uncultured man renders utterly futile all those arguments founded on the common consent of mankind, which are often brought forward in support of certain speculative opinions. No instance can, perhaps, be adduced of any such opinion held generally among mankind having been confirmed by scientific research ; on the contrary, every opinion of the kind may safely be regarded as more or less erroneous, from the mere circumstance that it is prevalent among the unthinking multitude.

* Mr. Herbert Spencer has recently put forward a hypothesis regarding the origin of the worship of animals and inanimate things which, within certain limits, may help to afford an explanation of such worship. It fails, however, to furnish a solution of the general question of animism. According to this hypothesis, animal and such-like worship was derived from the adoration of the spirits of ancestors whose names—obtained from animals, &c.—by lapse of time had ceased to be metaphorical. Thus, for instance, the hawk came to be worshipped when the metaphorical nature of the name Hawk, borne by a deceased ancestor whose worship happened to be kept up by his descendants, was lost sight of and the word hawk was taken for the animal, the latter being in consequence worshipped instead of the spirit of the deceased Hawk. It is not impossible that this was one of the ways in which some animals may have come to be worshipped, but it can hardly be accepted as that whereby objects of all kinds acquired the character of fetishes and were supposed to have souls, as was the case among the islanders of the Pacific, for instance, and many other primitive peoples. The process by which fetishistic worship was arrived at must have been much more simple. Mr. Fergusson's account (to be presently quoted) of

10.—Some writers have attempted to divide the superstitions of savages into classes, such as fetishism, totemism, shamanism, idolatry, &c. ; but this classification does not afford a clearer view of the subject. The differences which these names imply are rather practical than doctrinal, and depend principally on the development which sacerdotalism has acquired in the countries where the terms are used or to which they have been applied. Thus shamanism (the religion of the Samoiedes and other Siberian tribes) is that stage of fetishism wherein something of the nature of a regular priesthood has become recognized, the possessing spirits which are worshipped being supposed to be accessible only by means of the shamans ; while in those regions where “totems” and “medicine-bags” prevail, the office of the priest is less distinctly defined. The opinions wherewith the terms in question are connected are all essentially fetishistic ; for even idolatry, which it is the fashion to distinguish emphatically from fetishism as of a higher nature, but which, when deserving of the name, regards the idol as actually spirit-possessed, differs from simpler fetish beliefs merely in the use, for worship, of objects fashioned more or less rudely in human form, instead of natural and comparatively shapeless things.

11.—It is the universal belief of the savage not only that the world is tenanted by numerous invisible personal spirits, but that they are capable of exercising an active agency for good and for evil on the course of human affairs. An anxious desire to propitiate the favour or deprecate the hostility of such of these mysterious beings as he may imagine to be within his sphere, is the natural consequence. At first he supplicates them in complimentary words, as he would a fellow-man in whose power he might be. But mere praise and supplication he feels to be insufficient, for he is well aware that he himself is not always influenced by flattering words alone. Persuasion he knows to be more certain when the petition is accompanied by gifts. Perceiving that invisible beings are not likely to stand in need of articles of clothing or ornament, he confines his offerings, for the most part, to food (chiefly animal) and drink, the natural emanations from which, or the vapours produced when they are burnt, spirits must be supposed capable of absorbing.

the way in which he actually saw tree-worship arise in India would seem decisively to confirm the more generally-received explanation given above. (The Origin of Animal Worship, by Herbert Spencer : *Fortnightly Review*, vol. vii, pp. 535-550, 1870.)—See B.C. 4125, 6, 7.

He observes attentively what form of words and what kind of offerings have most efficacy, and carefully notes the details of his acts. Should the object to which he addresses his supplications not be in his own custody, he takes care to enlist in his behalf the individual whose guardianship of it qualifies him to direct the ceremonies to be observed. Thus has religious worship, which, in one form or other, is inseparable from the belief in spirits, shaped itself from the very first into praise, prayer, and sacrificial or other ritual observances, conducted, for the most part, under the direction of individuals of superior pretensions or supposed greater knowledge and experience, who, except in a very few countries, have come to constitute a separate caste, class, or profession, under such names as medicine-men, shamans, brahmins, rabbis, priests, &c. The rules and precepts of these authorities, collected and transmitted by oral means, become the basis of codes of religious law, and when reduced to writing in a more advanced stage of culture, form the first cast of the sacred books or holy scriptures which definitively constitute special systems of religion, and hold together their adherents.

12.—But the faith of the savage is not limited to belief in the existence of spirits; he has the firm conviction that intercourse with them is possible. They are, it is true, hardly ever visible to him in his waking hours, but at night, in his dreams, they can be seen by him, sometimes as spiritual visitors who voluntarily come to him with some ultra-mundane message, and sometimes as beings whom his own spirit goes forth to meet. Whatever information is imparted, at such interviews, he accepts as revelation from the other world. Those of his fellows who are peculiarly endowed, in respect to the frequency or vividness of their dreams and visions, are eagerly consulted by him and willingly remunerated for their communications. It is soon discovered that fasting and certain monotonous exercises conduce to the supervention of spiritual intercourse. When practised by persons naturally predisposed to such manifestations, these means are productive of the state of psychical exaltation which is styled inspiration. The inspired individual becomes the seer or prophet of his tribe, whose vaticinations regulate the conduct of many private, and almost all public transactions.

13.—The places where spirit-possessed objects are situated or kept become shrines, with which are soon connected fabulous legends or myths, suggested by the local circumstances and

history of each, or imagined for the purpose of explaining obscurities in such fables, or lost meanings of words and names made use of therein. When the possessing spirits, as is frequently the case, are supposed to be the disembodied souls of deceased chiefs or warriors, some of their principal deeds when in the flesh, exaggerated, embellished, and often mingled with still more fabulous inventions, are associated with such sacred localities and handed down in the form of oral traditions. The particular character assumed by these legendary relations is determined chiefly by the geographical, physical, and social circumstances of those among whom they originate; a remarkable conformity of general structure, nevertheless, prevailing among such imaginings, which necessarily all run very much in the same groove.

14.—Of the way in which spirit-possession comes to be attributed to particular objects we have an authentic and most interesting modern example in the following passage from Ferguson's "Tree and Serpent Worship," which may safely be assumed to be accurately descriptive of the same process in primitive times:—"While residing at Tessore, I observed at one time considerable crowds passing near the factory of which I then had charge. As it might be merely an ordinary fair they were going to attend, I took no notice; but as the crowd grew daily larger and assumed a more religious character, I inquired, and was told that a God had appeared in a tree at a place about six miles off. Next morning I rode there, and found a large space cleared in a village which I knew well, and in the centre of which stood an old decayed date-tree, hung with garlands and offerings. Around it houses were erected for the attendant brahmins, and a great deal of business was going on in offerings and *pūja*. On my inquiring how the God manifested his presence, I was informed, that soon after the sun rose, the tree raised its head to welcome him and bowed it down again when he departed. As this was a miracle easily tested, I returned at noon and found it was so! After a little study and investigation the mystery did not seem difficult of explanation. The tree had originally grown across the principal pathway through the village, but at last hung so low that in order to enable people to pass, it had been turned aside and fastened parallel to the road. In the operation the bundle of fibres which composed the root had become twisted like the strands of a rope. When the morning sun struck on the upper surface of these, they contracted in drying, and hence a tendency to untwist which raised

the head of the tree. With the evening dews they relaxed and the head of the tree declined." *

15.—The primitive origin of fetishism was not unknown to the ancients. In the fragments ascribed to the Phœnician writer Sanchoniatho, which have been preserved by Eusebius, we meet with the following distinct statement :—"These first men consecrated the productions of the earth and judged them Gods and worshipped those things upon which they themselves lived, and all their posterity and all before them ; to these they made libations and sacrifices."† But fetish belief, which began with "these first men," never afterwards ceased to prevail, more or less disguised, in connection with religion and speculations of a religious character. We find it cropping out often in the works of classical and Biblical writers. When Plato argues that the planets are possessed by souls because all things that move themselves, as they do, are animate, he seems to be reasoning after the manner of "these first men." In the expression "Prince of the Power of the air," made use of by St. Paul (Eph. ii, 2), we have evidently an unconscious outcrop of primitive views of the government of the air and winds, according to which the power of the air was in the control of personal spirits. The title Prince implies the belief, on the part of Paul, of a complete aerial hierarchy. But in the fourth century of our era, when knowledge and learning were rapidly disappearing and philosophy was daily becoming more and more subservient to religion, we find fetishism again coming to the front in its original force. Thus the so-called philosopher Iamblichus could write the following specimen of transcendental fetishism which, slightly varied, was afterwards repeated by countless Saints and Fathers in respect to Christian images, pictures, relics and elements :—"If the power of the Gods manifest itself in inanimate things, such as stones, rocks, rods, pieces of wood, corn, or wheat,‡ it is most admirable in its bearing

* Tree and Serpent Worship, by James Fergusson, p. 74; Lond., 1868.

† Sanchon. ap. Eus. Præp. Evang. i, 10: *Ancient Fragments*, by I. P. Cory, p. 5; Lond., 1832.

‡ It is, no doubt, to this fetish belief in the God-possession of bread-corn, which we have already seen mentioned in the above-quoted extract from Sanchoniatho, under the more general expression "those things upon which they themselves lived," that Cicero alludes in the well-known passage: "When we call corn Ceres, and wine Bacchus, we make use of the common manner of speaking; but do you think any one so demented as to believe his food to be God?" (De Nat. Deor. iii, 16.) Although Cicero was unwilling to admit the possibility of so great credulity, there can be no doubt that the divine possession, in certain

on prophecy and divination, because it imparts souls to things inanimate, motion to things immovable, and makes all things to partake of mind and to be defined thereby." *

16.—By fetishism may reasonably be explained certain superstitions which were particularly rife in the ancient world, and for which it has been found difficult otherwise satisfactorily to account. Astrology—that offshoot of astrolatry—whose fundamental tenet was belief in the influence of the planets on the destiny of individuals, for instance, could never have been a real lively faith but for the firm conviction that those heavenly bodies were actually possessed by active spiritual beings or Gods. The influence which astrology recognized in the planets was one of personal power. As observation and mental culture gradually effected the displacement of this idea of personal power by that of inanimate physical force, astrology gave way to astronomy, and finally disappeared from all but the lowest strata of European thought. We have another instance in that peculiar superstition which, under the name of phallic-worship, has recently been made the subject of much study and speculation. The behaviour of the virile member has probably always been such as to favour the belief that it was possessed by an independent spirit of its own. The wide prevalence of the phallic superstition in so many regions and during such long ages, which has excited the wonder of inquirers who overlooked the circumstance that the phallus was an actual fetish rather than a mere emblem, is readily explained by the universal interest felt by mankind, in every phase of human society, in the source of procreative power and corporeal volupty.

17.—As has been already indicated, it is not in the ranks of savagery that the superstitions of primitive man alone are found; they are perhaps, not absent from the folk-lore, mythology, and language of any people whatsoever. Modern communities, cultured as well as uncultured, are all the direct descendants of fetishistic humanity. It was under the influence of fetishism that human society received its first mental education; and having during many long ages had no other intellectual training, mankind at large has thereby contracted the habits of reasoning which cha-

circumstances, of bread, was a matter of common religious faith in ancient times, as indeed it still is among that large body of people who believe in the "real presence."

* Iamblichus: *On the Mysteries*, translated by T. Taylor, iii, 17; Chiswick, 1821.

racterize that stage of culture. In some favoured countries, it is true, an inconsiderable portion of the population has, under certain circumstances, succeeded in emancipating itself from the primitive notions of things that belong to savage communities. But the universal prevalence throughout the world, and in all sections of society, of many popular superstitions, which are but little, if at all, removed from those of savagery, seems to prove that civilization in its early phases was characterized by a uniformly childish way of interpreting natural phenomena; just as every form of linguistic expression, if at all abstract or signifying the results of complex contrivance or thought, has been constructed of syllables or words originally intended to convey only the most concrete and simple ideas; * the many varieties of written characters employed by mankind have been derived from rude pictorial representations of objects; and the highest system of arithmetical notation as yet in use has originated in the simple process of counting on the fingers. The circumstance that these superstitions, and the imperfect and distorted views of nature wherewith they are generally associated, are most persistent in connection with religious observances, has given rise to the opinion that they underlie all known faiths, and under a variety of modifications and disguises play in them a most important but little-suspected part.

18.—The survival of primitive superstitions in advanced culture may be accepted as a sure indication of evolution in that department of thought, in the same way that the survival in the European classic age of the use of flint implements, in certain cases, is admitted to be proof of progress having been made in the arts of life. Although the belief in and dread of spiritual beings are found among all savage communities of whom accurate knowledge has been had, it can hardly be doubted that there was a time when the fear and awe, which are aroused in man by certain natural phenomena, were so ill-defined and so devoid of rational significance as to be little removed from the effects produced on the lower animals by telluric and atmospheric commotions. There was no doubt a stage in the natural history of man when the arts of producing fire, striking flint-flakes, and fashioning other implements

* Translations of the Bible into rude dialects afford many illustrations of this. Bishop Colenso has mentioned a very good one. In the Zulu version, the word *ubomi*, which is used to imply the highest perfection of excellence, and in that sense is applied to the Deity, literally signifies meat more than half putrid and alive with maggots!

had not yet been acquired, and when, consequently, the life which he lived must have been even more brutal than that of the lowest savages of the present day, and so closely akin to that led by some monkeys as not to be truly human. Of all the numerous contrivances by means of which man has perfected the artificial life which he leads, by far the most important is the flint knife. It was the first step in human culture. Its discovery marks the period when advance in the arts of life became possible, when, in short, humanity began.—See B.C. 5687, 2.

19.—We have seen that the foundation whereon are based the animistic views of nature which uncultured men universally entertain, is the feeling experienced by them that their powers of thought and volition are due to the bodily inhabitation within them of an individual spirit or soul, having an existence independent of the body. That the soul survives the body is but the natural complement of this conviction. Belief in the soul's immortality is, therefore, the most firmly rooted of all primitive speculative tenets, and in no sphere of humanity is it more completely intertwined with language and customs than in that of savagery. Unattenuated by metaphysical speculations respecting "immateriality," it here prevails in the primary form of belief in the vaporous but substantial spirit, entering and leaving the body as "the breath of life" (Gen. ii, 7), and survives in the word spirit itself, which comes from *spirare*, to breathe. Since the breath at death seems, in an active sense, to depart from the corpse and, in cases of suspended animation from fainting, drowning, and other causes, appears to come back again on resuscitation supervening, it follows that it is capable of existing when absent. But, during its absence, sensation, consciousness and thought, the peculiar attributes of the animating soul, are in abeyance. This is enough to connect together and, in a loose kind of way, to identify the breath with the soul. To men unqualified to distinguish between subjective and objective, the apparent reality of dreams and apparitions, wherein deceased persons are seen, by affording the very evidence of the senses in favour of the retention of the human form by the departed, gives confirmation to the belief. It is but logical (and savages are rarely wanting in simple logic) to extend this evidence to other objects, such as, for instance, the articles of dress in which the deceased may have appeared, any animal by which he may have been accompanied, and, in short, accessories of every kind. Thus also is confirmed, in the same manner, the existence of the spiritual double or soul

of these and all other objects, inanimate as well as animate. For the accommodation of these vaporous or shadowy bodies some ultra-mundane region is necessary. Among primitive savages this is in general a vague counterpart of the every-day world of the flesh, supposed to be located in some island beyond the west, or in those lower regions into which the sun is seen to sink.*—See B.C. 4004, 2, 3.

20.—The question has often been raised, whether the ideas and practices involved in fetishism substantially belong to what is understood by the word religion, or whether they are more correctly described as superstitions. Considering the difficulty which has been experienced in determining the signification of the Greek word *δεισδαιμονέστεροι* (spirit-fearing), applied by St. Paul to the Athenians (Acts xvii. 22), some authorities rendering it “superstitious” and some “religious,” it would seem best to regard both of those words as of relative rather than absolute value, with somewhat more of the sense of instinctive fear or awe attaching to the former. It is however this timorous state of mind, in respect to the unexpected and unknown, so characteristic of the ordinary savage, which lies at the bottom of the religious as well as of the superstitious sentiments.† This is admitted in the scriptural expression “the fear of God,” which all theologians and religionists recognize as the essence

* No accounts of the manners and opinions of savages are more authentic than those of Captain Cook, the circumnavigator, whose voyages in the Pacific preceded missionary and other European intercourse with that region. The opinions which he describes cannot therefore have been derived from the Old World, but must have been independently acquired. The following sketch by him of the religious opinions of the Tahitians forms, as it were, an epitome of savage faith:—“But what is more singular, they maintain that not only all animals, but trees, fruit, and even stones have souls, which at death, or upon those objects being consumed or broken, ascend to the Divinity, with whom they first mix, and afterwards pass into the mansions severally allotted to them. They imagine that their punctual performance of religious offices procures for them every temporal blessing. And as they believe that the animating and powerful influence of the Divine Spirit is everywhere diffused, it is no wonder that they join to this many superstitious opinions about its operation. Accordingly they believe that sudden deaths and all other accidents are effected by the immediate action of some Divinity. They are startled in the night on approaching a *toopapaoo*, where the dead are exposed, in the same manner that many of our ignorant and superstitious people are with the apprehensions of ghosts, and at the sight of a churchyard; and they have an equal confidence in dreams, which they suppose to be communications either from God or from the spirits of departed friends.” (A Voyage to the Pacific Ocean, by James Cook, vol. ii, p. 165; Lond., 1784.)

† *Primos in orbe deos fecit timor*: Statius, Theb. iii, 661.

of piety. It is mere waste of time to attempt, as is so frequently done, to define religion and superstition by reference to the primary meaning of the Latin words from which those terms are derived; for we have only to pass out of the Latin language to perceive that in arguing about the significance of the verbal symbols employed therein, in this instance, we are dealing with shadow and not with substance. Like the Greek—the only tongue to which Christians can properly appeal in such cases—the non-Latin languages, perhaps without exception, make no show of distinguishing religion from superstition. But the opinions themselves to which those expressions would seem suited, might very appropriately be taken account of. Were that done, it would seem to many that there is only a difference of degree between the belief of the savage in the possession by distinct personal spirits, both good and bad, of terrestrial objects and the heavenly bodies, and that of the educated European in the universe possessed and governed by a good personal spirit, with a subordinate region in the possession and rule of a wicked spiritual being. Instead of regarding religion as standing opposed to superstition, it would, probably, be more consonant with accurate thought to recognize in the strict observations and rational interpretations of science, as collected and rectified by a succession of practised minds through the art of writing, the true antithesis to the vague impressions and unwarranted speculations of untutored men, which form the basis of all the superstitions, whether existing in their original baldness among savages, and in the nurseries and lower ranks of cultured society, or among educated people, wrapped up in the traditional verbiage and sterile conventionalisms which still pervade the teaching of our schools and colleges.*

* A very instructive illustration of the way in which the teaching of our schools and colleges unfits the mind for thinking clearly and vigorously on questions that touch on religion, is furnished by the account given by Sir Samuel Baker, of a conversation which took place between him and a free-thinking African chief of the name of Comoro. To prove the immortality of the soul, which the sceptical negro denied, the English traveller adduced three arguments. The first was one on which savages themselves chiefly build their popular faith in spirits and souls. "Do you not know," said Sir Samuel, addressing the unbelieving chief, "that there is a spirit within you more than flesh? Do you not dream and wander in thought to distant places in your sleep? Nevertheless, your body rests in one spot." Here, first of all, thought, or rather mental perception of a certain kind experienced during sleep, by the very simple process of begging the question, is assumed to be "spirit"—the thing to be proved. In the next place, the figure of speech of the man "wandering" in thought to a distance while the body "rests in

21.—It has been asserted that there even now exist rude tribes destitute of religion. But the observations on which statements to this effect have been based, were evidently made under the influence of the adoption of a too narrow definition of what constitutes religion. It may safely be advanced that there are not known any human communities whatever, wherein do not prevail the

one spot," is unwarrantably put forward as an actual wandering away from the body of an independent individual spirit ; whereas it evidently has nothing objective about it, but is merely a series of subjective mental recollections, in new and perhaps fantastic combinations, of former experiences, taking place "in one spot."—"Where will the spirit live?" proceeded to ask the African chief. "Where does fire live?" retorted the Englishman. "Cannot you produce fire," he continued, entering on his second argument, "by rubbing two sticks together, yet you see not the fire in the wood? Has not that fire which lies harmless and unseen in the sticks the power to consume the whole country? Which is the stronger, the small stick which first produces the fire, or the fire itself? So is the spirit the element within the body as the element of the fire exists in the stick; the element being superior to the substance." The distinction here made between element and substance takes us back at once to the classic age of "the four elements," if not farther. Curiously enough we have again produced by the educated European to the African negro, as an argument for the soul's immortality, a common savage notion, namely, that fire is an independently-existing spiritual being which lurks in certain bodies, and can be roused by rubbing or striking into ravenous activity. A very rudimentary knowledge of physical science would have made Sir Samuel Baker aware that fire is no "element," but merely a condition of certain bodies when undergoing union with oxygen under the influence of heat. Latent heat is perhaps the thing he was thinking of. But if man could be shown to possess a spirit of a nature analogous to that of latent heat, it would prove the very contrary of what Sir Samuel was arguing for; namely, that instead of man's mental operations being due to the working within him of an independent spiritual tenant, they are but the results of bodily conditions. The phenomenon of rapid oxidation of bodies under a high temperature, with evolution of heat and light, certainly affords no argument in favour of the doctrine of the immortality of the soul.—The conclusion of the conversation, which contained Sir Samuel's third argument, may be given without comment. "Some corn had been taken out of a sack for the horses, and a few grains lying scattered on the ground, I tried the beautiful metaphor of St. Paul, as an example of a future state. Making a small hole with my finger in the ground, I placed a grain within it; 'That,' I said, 'represents you when you die.' Covering it with earth, I continued, 'That grain will decay, but from it will rise again the plant that will produce a reappearance of the original form.' 'Exactly so,' replied Comoro, 'that I understand. But the original grain does not rise again; it rots like the dead man, and is ended; the fruit produced is not the same grain that we buried, but the production of that grain: so it is with man—I die and decay, and am ended, but my children grow up like the fruit of the grain. Some men have no children, and some grains perish without fruit; then all is ended.' I was obliged to change the subject of conversation. In this

belief in, and fear of, spirits or Gods of one kind or other, which form the essence of religion. Travellers and missionaries have no doubt occasionally happened to meet with strong-minded savages, whose personal views on speculative subjects were sceptical, or even atheistical, just as individual sceptics and atheists are to be encountered in the heart of Christendom. These were persons of exceptional mental idiosyncrasy. Such would appear to have been the African chief Comoro, of whom we have just spoken in connection with Sir Samuel Baker. Dr. Livingstone, whose qualifications as an African traveller, and opportunities as an opener of new ground are unrivalled, had not met with any community destitute of what he understands by religion, in the course of the explorations which he made previous to his last expedition. "There is no occasion," he remarks, on this subject, in his first book of travels, "for telling even the most degraded of these people of the existence of a God, or of a future state, these being universally admitted. Everything that cannot be accounted for by common causes is ascribed to the Deity, as creation, sudden death, &c. 'How curiously God made these things,' is a common expression, as also 'he was not killed by disease, he was killed by [the visitation of] God.' And when speaking of the dead, they say, 'he has gone to the Gods.'"^{*} In his second book of travels he writes as follows:—"They believe in the existence of a Supreme Being called Mpambè, and also Morungo, and in a future state. 'We live only a few days here,' said old Chinsunse, 'but we live again after death; we do not know where, or in what condition, or with what companions, for the dead never return to tell us. Sometimes the dead do come back, and appear to us in dreams; but they never speak nor tell us where they have gone, nor how they fare.'"[†] (*Prehistoric Times*, by Sir John Lubbock, Bart.; Lond., 1865. *Researches in the Early History of Mankind*, by E. B. Tylor; Lond., 1865. *Le Fétichisme*, par M. de Montroui: *La Philosophie Positive*, t. ii, p. 386; Paris,

wild savage there was not even a superstition upon which to found a religious feeling; there was a belief in matter; and to his understanding everything was material. It was extraordinary to find so much clearness of perception combined with such complete obtuseness to anything ideal." (*The Albert N'Yanza*, by Sir S. W. Baker, vol. i, pp. 247-9; Lond., 1866.)

^{*} *Missionary Travels and Researches in South Africa*, by David Livingstone, p. 158; Lond., 1857.

[†] *Narrative of an Expedition to the Zambesi*, by David Livingstone, p. 121; Lond., 1865.

1868. *The Origin and Development of Religious Belief*, by S. Baring-Gould; Lond., 1869. *The Origin of Civilization and the Primitive Condition of Man*, by Sir John Lubbock, Bart.; Lond., 1870. *Primitive Culture*, by E. B. Tylor; Lond., 1871.)

II.—Age to which, if Max Müller be right, may reasonably be referred that stage in the development of language in Europe and Western Asia, which has been called by him the Rhematic, from *ῥηματικός*, “relating to words.” During this period, “expressions were coined for the most necessary ideas,—such as pronouns, prepositions, numerals, and the household words of the simplest life,—a period to which we must assign the first beginnings of a free, and as yet hardly agglutinative grammar,—a grammar not impressed with any individual or national peculiarities, yet containing the germs of all the Turanian as well as the Aryan [Indo-European] and Semitic [Syro-Arabian] forms of speech. This period forms the first in the history of man,—the first, at least, to which even the keenest eye of the antiquarian and the philosopher can reach.”*—See B.C. 6500, II.

B.C. 8570.—Point of time whereto reached back, according to what is reported in the *Timæus* of Plato to have been stated to Solon by the priests of Sais, in Lower Egypt, the annals of their city, as preserved in their Holy Scriptures.—See B.C. 12,053, 7500, 7.

B.C. 8150. 1.—Age of the human remains, consisting of jaw-bone with perfect teeth and portions of the bones of the foot, which were discovered by Count F. Pourtales, embedded in conglomerate bluff of lacustrine coral formation on the shores of Lake Monroe, in Florida, according to Professor Agassiz’s estimate of the rate of growth of the matrix wherein they were found. (*Mobile Times*, April 14, 1853.)

2.—May be approximately classed with the above, the fossilized human skeletons found by Dr. Lund, the Danish naturalist, in various localities in the province of Minas Geraes, Brazil, associated with bones of a large number of extinct species of animals. (Nott and Gliddon: *Types of Mankind*, p. 350.)

B.C. 7500. 1.—Burnt brick and pottery in use in Egypt, as has been proved by the fragments of those substances which were

* Chips from a German Workshop, by Max Müller, vol. ii, p. 8; Lond., 1867.

disinterred by Hekekyan Bey and Mr. Leonard Horner, from the undisturbed Delta alluvium, in the immediate vicinity of the Memphis colossus of Rameses II., at the depth of 39 feet below the present surface. Of all known prehistoric remains of human workmanship, these have their age determined with the greatest amount of certainty. Their discovery tends to revive the credit of some of the statements of the Greek writers, relative to the great antiquity of Egyptian civilization,* which the adoption of the short Biblical chronology has caused to be generally considered, by the moderns, destitute of foundation. (Philos. Trans., 1858, p. 75.)

2.—Three principal objections have been raised to these observations, namely : (a) The fragments of brick and pottery in question may be *débris* of comparatively recent date, which have been left by the Nile in some ancient channel, since become obliterated by silting up and converted into dry land. (b) They may have fallen down some comparatively modern well which was afterwards filled up. (c) They may have sunk through the soil when saturated by the inundation. Of these objections, the first only has any appearance of validity ; but when the great distance of time, at which must be placed any change in the channel of the Nile, at Memphis, sufficient to account for the position of these remains is considered, the gain to be obtained for the short chronology, by maintaining it, would hardly appear worth contending for. The second objection cannot be reasonably entertained in the absence of all evidence of a well having existed where the remains were found. The third is satisfactorily disposed of by the fact that fragments of the monuments, both small and great, have retained their position on the alluvial soil without sinking, otherwise than apparently by the accumulation of Nile mud upon and around them.

3.—Perhaps no country whatever possesses so many and such clear evidences of advanced culture, in very early times, as Egypt. Archæological research has failed to bring to light any evidences of the savage phase of society in Egypt beyond the discovery of a few stone knives in the tombs. In the year 1869, however, flint flakes were discovered in considerable quantities on the heights above Biban-el-Meluk, near Thebes. But this is not a situation which identifies them with Egyptian culture, although it is not impossible that in this locality there may have been a manufactory

* "The Egyptians, whom we consider to be the most ancient of men."
—Aristot. : Meteor. i, 14. Cf. Damascius : Vit. Isid. a Phot. excerpt. § 1.

of the sacrificial stone knives used by the priests; at all events, the instruments hitherto discovered are all of the flake description,—objects such as large axes or hammers, daggers, knives, spear-heads, arrow-points, &c., being entirely absent. We know positively, moreover, from the labours of Colonel Howard Vyse, that under the fourth dynasty the Egyptians possessed iron,*—a fact which might indeed have been safely assumed from their great proficiency at that time, and even earlier, in the working of stone. The physical conformation and geographical and meteorological circumstances of Egypt were, from the most remote times, such as inevitably to lead to its becoming one of the very earliest centres of civilization on the earth. Isolated to such an extent from the rest of the African continent and from Asia, as to have most of the advantages of an island, yet traversed by one of the mightiest of rivers,† which, owing to the peculiar set of the winds and the favourable conditions of the annual inundation, was at once eminently suited for upward as well as for downward navigation, and admirably calculated to foster agriculture, and, at the same time free from forests which retard civilization by harbouring wild beasts and encouraging savage habits among men, the valley of the Nile must have been the seat of industry and order from its very first human occupation.

4.—That the Egyptians were fully alive to the value of these considerations in connection with the question of the origin of the human species, may be gathered from a passage in the Roman History of Justin, which runs thus:—"There was a long dispute between the Scythians and the Egyptians concerning the antiquity of their several races; the Egyptians alleging that, 'in the beginning of things, when some countries were parched with the excessive heat of the sun, and others frozen with extremity of cold, so that in their early condition they were not only unable to produce human beings, but were incapable even of receiving and supporting such as came from other parts (before clothes were discovered), Egypt was always so temperate that neither the cold in winter nor the sun's heat in summer incommoded its inhabitants; and its soil so fertile that no land was ever more productive of food

* See B.C. 3594, 5.

† "To Egypt's stream, the river filled by God,"—*Αἰγύπτῳ, δῖπνετός ποταμοῖο* (Homer, *Odyss.* iv, 581), from which, according to the ingenious and probably correct conjecture of Professor Goldschmidt, of Copenhagen, was derived the word Egypt,—*Αἰγυπτος*, namely, *Ukh-hap-t*, "the land of the good stream-sending spirit."

for the use of man; and that consequently men must be reasonably considered to have been first produced in that country where they could be most easily nourished.'” (Justin, ii, 1.)

5.—These circumstances of their country not only formed the institutions and manners of the Egyptians, but to a great extent determined their physical and mental characteristics. Their influence at the present day is so little diminished that, notwithstanding the many political vicissitudes of the country, the inhabitants of Egypt, instead of being a mongrel and degenerate race like the modern representatives of most ancient communities, are, as may be learnt from innumerable extant contemporary sculptures and paintings, the true descendants of the old Egyptians, whose peculiarities of body—and, perhaps, also of mind—they have inherited. No people has more completely resisted what we are in the habit of considering the natural law of the decline and dissolution of nations, and no other has been so fortunate as to possess monuments of vast antiquity which fully depict the civilization of its earliest ages, and a climate permitting of their indefinite preservation. The ancient Egyptians may well be pardoned for designating themselves by the terms *Rut*, “the race,” and *Temmu*, “men” par excellence. (*Histoire d’Egypte dès les premiers temps*, par H. Brugsch, vol. i, p. 5; Leipzig, 1859.)

6.—In support of these statements it may be well to give the following from Wilkinson, who, on the chronological question, is one of the most moderate of Egyptologists:—“In their manners and customs, too, the changes that time brought about were very trifling; and, as I have already stated, the fact of the oldest monuments representing a people already having the customs of their later civilization, while it takes us back to an era beyond the reach of all known history, suggests the obvious question,—how long a time must have elapsed before the Egyptians could have reached that advanced state in which they are introduced to us by the monuments?”*

7.—The period under consideration falls within the age wherein Herodotus, Diodorus Siculus, and other Greek writers have placed “the reign of the Gods,” a period which probably corresponded to what is now understood by the age of “Sacred History.” Already must have taken place, long antecedently, the fixation in

* The Egyptians in the Time of the Pharaohs, by Sir J. Gardner Wilkinson, p. 11; Lond., 1857.

the valley of the Nile of the people from whom, by commingling with the more or less approximately autochthonous inhabitants, were derived the ancient Egyptians, whose language would appear to have been related, on the one hand, to a primitive form of speech having affinities with the Aryan (Indo-European) as well as with the Semitic (Syro-Arabian) tongues, and on the other, as has been thought by some, to the Hottentot dialects of Africa. (Herodot. ii, 142, 143. Diod. Sic. Hist. Bib. i, 16. Egypt's Place in Universal History, by C. K. J. (Baron) Bunsen, vol. iv, pp. 480-84; Lond., 1860. Hottentot Fables and Tales, by W. H. J. Bleek, pp. xvii, xviii; Lond., 1864.)—See B.C. 12,053; 8570.

8.—Certain very remarkable affinities, among some of the more important religious names in use among these three sections of the human family, may perhaps be accounted for by the linguistic circumstances of this period. The following are examples of such affinities:—

INDO-EUROPEAN.	SYRO-ARABIAN.	EGYPTIAN.
AUM, HOM, OMMA-NI — Sanskrit, Zend, Pali: Sacred mystic ejaculation; OM[Φ], OM[ΦH] — Greek: Divine voice, oracle.	AMAN, AMEN—Syro-Chaldean, Hebrew, Arab: Religious ejaculation.	AMUN, AMEN: Name of the ineffable Deity.
MENU, MANU, MANI — Sanskrit; MANES—Lydian, Persian; MAN-N[US]—German: Early leader and legislator.	MINOS—Cretan; Early king and legislator.	MENA, MENES: Early king and legislator.
ISI, ISHI — Sanskrit; IE, IHΞ, ΙΑΞΟΞ — Greek; IS, HIS (by the Romans written HESUS)—Celtic; IOVE—Latin: Personal divine manifestation.	ISHI (Hosea ii. 14), IE, IEIE, IEVE (JEHOVAH) — Hebrew: Divine names.	IS, IES, ISI, HS, HESI (Isis): Divine co-associate of Osiris on earth.
RA[J]—Sanskrit: shining, reign; [MIT]RA—Sanskrit, Zend: God in the solar light.	RA, RI—Chaldean: Solar, God.	RA, RI: God in the solar light.
HERI, HARI, HORI—Sanskrit; 'HPA, 'HPΩΞ,	AOR, UR, HERES (Is. xix. 18)—Hebrew;	HER, HAR, HOR, XR (Horus): Divinity con-

INDO-EUROPEAN.	SYRO-ARABIAN.	EGYPTIAN.
'ΗΡΑΚΛΗΣ, XP, ΧΕ- PEΣ—Greek ; HERTH or HERTHA—German ; Solar Divinity, God in light and fire, the hearth.	HUR, UR—Chaldean : Solar manifestation, light.	connected with the solar light ; OURO—Coptic : Light.
ISIRI, ISWARA, SU- RYA — Sanskrit : Solar Divinity.	ASHUR—Chaldean : Important Divinity.	HESIRI (Osiris) : Solar Divinity.
ATYS, ATTEN—Phry- gian Divinity, having so- lar significance ; 'ΑΘΗΝΗ —Greek : the divine vir- gin, impersonation of di- vine enlightenment.	ADONI—Hebrew : The Lord, the "Sun of Right- eousness ; " Phœnician (Adonis) : Impersonation of divine light.	ATUN, ATEN : The radiant solar disc, imper- sonation of divine light.
SATYR : Classical Di- vinity much dreaded, and represented with horns, tail, and hoofs, like the modern European Devil.	SHETAN—Hebrew, Arabic (Satan) : the De- vil.	SET, SUT, SUTEKH : The God of war, discord, and evil.
ANAHITA—Zend : So- lar Divinity associated with Mitra or Mithra.	ANAT — Babylonian, Phœnician ; TANAT — Punic : Solar Divinity as- sociated with Anu (Baal).	NEIT : Divinity, con- nected with the sun and the air.
ΘΕΜΙΣ—Greek : Imper- sonation of divine order and equity.	THUMMIM—Hebrew : Divine manifestation in connection with truth and justice.	THMEI : Impersonation of divine truth and jus- tice.

9.—These name-affinities have their parallel in some special religious ideas and practices which were common to the same great families of mankind. The bull performed a very conspicuous part in the religions of India, Syro-Chaldea, and Egypt. In the bulls of Siva (India), and Mithra (Persia), the bovine figures of Assyria and the Egyptian Apis and Mnevis, we have well-known instances. The winged serpent in association with a globe, ring, or wheel, was common to the Egyptians, Phœnicians, Hebrews, Assyrians, Persians, and Hindus. The serpent, in connection with a mystical tree, was the subject of a wide-spread myth. The sacred boat, ark, or basket (Greek, *argo* ; Sanskrit *argha*), was intimately associated with the holiest mysteries of the Greeks, Babylonians, Hebrews,

Phoenicians, Egyptians, and Hindus, and in that capacity was often connected with the serpent.

B.C. 7000. I.—Egypt, politically, in the state of a lax confederation of provinces or nomes, according to Baron Bunsen.

II. 1.—Period previous to which, according to the best authorities, must have flourished even the latest of the communities of men whose vestiges, consisting, for the most part, of implements of unpolished but generally finely-chipped flint and other stones, or of bone and horn, and more rarely of human bones, fragments of rude pottery, morsels of charcoal, marrow-bones longitudinally split (some of them human), have been discovered deeply embedded beneath the calcareous floors of caverns,* in several regions in Europe and elsewhere, associated with the osseous remains of various species of quadruped now wholly extinct, or of others, such as the reindeer, which have long disappeared from the countries where their bones are found. The men of this period in England, Belgium, and France, would appear to have existed under conditions that have been, to a considerable extent, perpetuated among the Lapps, Samoiedes, Eskimo, and Fuegians. Even as far south as the centre of France, they hunted arctic and subarctic animals in an arctic climate and surrounded by an arctic flora. We can gather from the vestiges which have been discovered of their mode of burial, that, as among savages of the present day, some of their funerary rites had regard to the life of the soul in a future state. It has even been surmised that the practice of cannibalism, in connection with superstitious burial observances, is strongly indicated by the longitudinally-split human bones which have been met with.

2.—One of the most remarkable things observable about these cave-men is the proficiency in the art of delineation exhibited on some of their engraved bones representing figures of the reindeer, mammoth, and other animals, and in one instance of man, the result, no doubt, of the accidental endowment of certain individuals among them with a particular mental idiosyncrasy. Proofs

* The following lines of Claudian are calculated to give rise to the inference, that the existence of stone implements (supposed to be of meteoric origin and called *ceraunia*) underneath cavern floors, had been observed by the ancients :—

“Pyrenæisque sub antris
Ignea fluminæ legère ceraunia Nymphæ”—

Beneath Pyrenean caves river-nymphs have gathered igneous thunder-stones.
(*Laus Seren. Reg.*, 77, 78.)

of the former existence, among the rude tribes of Australia, of the same faculty, have been discovered in the shape of comparatively well-executed figures of men and animals on the walls of caves and on rocks. At some more advanced period of human culture the development of this idiosyncrasy might have proved the foundation of a great school of design and painting.

3.—Four ages of ossiferous caves have been distinguished, each being characterised by the predominance of the bones of a certain animal, namely (a) Cave-bear, (b) Mammoth, (c) Reindeer, (d) Urus or gigantic Bison. Many hundreds, even thousands of years, may have elapsed between the first and the last of these ages, as seems to be proved by the calculated rate of agglomeration of the floors of some caves,* but the last had arrived in Europe before the date under which has been placed the present article. (On the co-existence of man with certain extinct Quadrupeds proved by Fossil Bones from various Pleistocene Deposits bearing incisions made by sharp instruments, by E. Lartet : *Quart. Jour. Geol. Soc. Lond.* (1859-60), vol. xvi, p. 471. New Researches respecting the co-existence of Man and the great Fossil Mammals, by E. Lartet : *Nat. Hist. Rev.*, 1862, vol. ii, p. 53. Reliquiæ Aquitanicæ, by E. Lartet and H. Christy; Lond., 1867. L'Homme Fossil en Europe, par H. Le Hon; Paris, 1868.)

4.—The following are some of the best known of the bone caves which contain remains of man or his works with vestiges of extinct animals, arranged in order of discovery or publication :—

A.—Caves of Gailenreuth situated in the valley of the Weissent, Franconia, in a perpendicular rock, at an elevation of more than 300 feet above the bed of the adjacent river. Prior to the year 1774, there were here discovered, according to Esper, deep in the soil which supports the stalagmitic floor of the caverns, human bones and fragments of rude pottery, in company with the osseous remains of cave bears and cave hyenas. Dr. Buckland, in the years 1816 and 1824, visited the caves of Gailenreuth, and subsequently described them, but without adding much to what was previously known. (Description des Zoolithes découvertes dans les grottes du Margriat de Bareith, par J. F. Esper; Nurem., 1774. Reliquiæ Diluvianæ, by William Buckland, p. 133; Lond., 1823.)

B.—Caves of Kostritz, in Upper Saxony, now used as gypsum quarries. In these caverns, which are situated in an elevated undu-

* Kent's Hole, for instance.—See below.

lating country, were found associated with the remains of the mastodon and other extinct quadrupeds, according to Dr. Schotte and Baron von Schlotheim, who examined and described them, in ossiferous loam, at a depth of 20 feet under a crust of dense stalagmite, several human bones, some of which were embedded eight feet beneath the remains of a rhinoceros. Mr. Fairholme, who subsequently investigated the subject on the spot, brought away specimens of these bones and presented them to the British Museum. (*The Natural History of the Human Species*, by Charles Hamilton Smith, pp. 93-109; Lond., 1848.)

C.—Kent's Hole, near Torquay, Devon. This chasm, or fissure, rather than cave, was first, but only partially, explored by the Rev. J. McEnery, between the years 1825 and 1829; later (1839 or 1840) by Mr. Godwin Austen; again, in 1846, by the Torquay Natural History Society, and still more recently, namely in 1865, by a committee of the British Association for the Advancement of Science. By the earlier explorers, flint knives, spear-heads, and arrow-points, with fragments of coarse pottery associated with various bones belonging to twelve extinct, besides those of extant, species of animals, were found distributed throughout the entire thickness of the intact ochrous cave-earth, which lies under huge blocks detached from the walls of the cavern, and a floor of the stalagmitic breccia a foot thick. By the latter were discovered, similarly situated, portions of a human skeleton in juxtaposition with artificially-split marrow-bones and a variety of flint implements, all of which were exhibited and described by Mr. Pengelly to the Geological Section of the British Association at Dundee, in the year 1867. The upper surface of the stalagmitic floor contained only Celtic and Roman-British remains. The estimated antiquity assigned to this floor by Mr. Vivian, prior to the Roman period, is 260,000 years. (McEnery's *Cavern Researches*, by Edward Vivian; Lond. 1859. Godwin-Austen: *Trans. Geol. Soc. Lond.*, ser. 2, vol. vi, p. 433. *Proceed. Brit. Assoc.*, 1866-67-68.)

D.—Cavernes de Pondres, Souvignargues, &c. (Gard) and Bize (Aube) explored in the years 1828 and 1829 by MM. De Christol and Tournal, and wherein were found human bones and fragments of coarse pottery in juxtaposition with remains of extinct species of cave-bear, rhinoceros, and hyena embedded under a stratum 13 feet thick, of loam and limestone *débris*. (De Christol: *Note sur les Ossements humains fossils des Cavernes du Département du Gard; Montpellier*, 1829.)

E.—Cavernes d'Engis et d'Engihoul, on the banks of the Meuse, near Liège, discovered and explored (1831-33) by Dr. Schmerling of Liège, and since (1860) investigated by several other observers, and particularly by Sir Charles Lyell and Professor Malaise, of Liège. Dr. Schmerling's explorations, which extended over a long period, resulted in the discovery, deeply embedded in the same compact matrix with the osseous remains of several extinct and other species of quadruped, of fragments of rude pottery, teeth of foxes and dogs pierced with artificial holes, rough flint knives and arrow-points, and six or seven human skeletons, the skull of one of which (the now celebrated Engis cranium) was in a state fit to be preserved, and is at present in the museum of Liège. (*Recherches sur les Ossements fossils découverts dans les Cavernes de la Province de Liège, par le Dr. Schmerling; Liège, 1846. Bull. Acad. Roy. Belge, vol. x, p. 546.*)

F.—Gower Caves, Glamorganshire (Bacon Hole, Minchin Hole, Bosco's Den, &c.), explored in 1849 by Colonel Wood, and investigated in 1860 by Dr. Falconer, from which were disinterred flint implements and bones of several extinct species of rhinoceros, elephant, and other quadrupeds. (*Palæontological Memoirs and Notes, by Hugh Falconer, vol. ii, pp. 498-536; Lond., 1868.*)

G.—Cavernes d'Aurignac, Haute Garonne, situated 43 feet above the adjacent river Rode, discovered by workmen in 1852, and explored by M. Lartet in 1860, wherein have been found seventeen human skeletons, numerous remains of five extinct species of animal, the tusk of a cave-bear carved and artificially perforated, a stone hammer, and a flint core, from which flakes, for the manufacture of flint knives, had been struck off. (*Annales des Sciences Naturelles, 1861, p. 177.*)

H.—Caverne de Chauvaux, situated thirty-five yards above the river Meuse, near Namur, Belgium, wherein Professor A. Spring, of Liège, in 1853, discovered, embedded in breccia floor, covered with cave-earth several feet thick, and overlaid with stalagmitic crust, numerous human remains, comprising five jaw-bones and a parietal bone, and a rude flint hatchet, intermingled with bones of elands, aurochs, and other animals, many of which were artificially split. (*Boucher de Perthes: Antiq. Celt., vol. ii, pp. 95, 96.*)

I.—Feldhof Grotto, Quarry of Neanderthal, situated between Düsseldorf and Elberfeld, wherein were discovered in the year 1856, at a depth of several feet in the compact calcareous floor, considerable portions, including the upper part of the skull, of

a human skeleton, "in all essential particulars agreeing with the conditions of the primeval fossil remains of extinct animals, which have been found under precisely analogous circumstances in other caves and grottoes of the same limestone range."* These discoveries, which have created great interest in the scientific world on account of the low type of the skull, were first published by Professor Fuhlrott of Elberfeld.

J.—Brixham Cave, Devon, explored in 1858, by Dr. H. Falconer, Professor Ramsay, and Messrs. Prestwich and Pengelly, who therein discovered, buried 12 feet deep under a floor composed of successive layers of gravel, limestone breccia, and cave-earth, covered with a crust of stalagmite, several flint-flakes along with bones of seven extinct species of quadruped. One of the flint-flakes lay close to the left hind-leg bones of a cave-bear. (*Quart. Jour. Geol. Soc. Lond.* (1859-60), vol. xvi, p. 190.)

K.—Grottoes of Maccagnone, Monte Gallo, and San Fratello, near Palermo, which were explored in 1859 by Baron Anca and Dr. H. Falconer. In the former, which is situated 50 feet above the adjacent sea, enormous quantities of bones of hippopotamus, mammoth, coprolites of hyena, &c., commingled with flint implements, have long been found embedded in a thick stratum of compact breccia underlying 10 feet of less solid concrete and sand. (*Quart. Jour. Geol. Soc. Lond.* (1859-60), vol. xvi, pp. 99-106.)

L.—Wookey Hole, near Wells, Somersetshire (discovered in 1853 in cutting a canal, and first scientifically investigated by Messrs. Dawkins and Williamson in 1859), in which were found bones of nine extinct, besides several extant species of animal, intermingled with bone arrow-points, and rough flint spear-heads. (On a Hyena Den at Wookey Hole, near Wells, by W. Boyd Dawkins: *Quart. Jour. Geol. Soc. Lond.* (1861-62), vol. xviii, p. 115.)

M.—Grottes d'Arcy sur Yonne, near Fontainebleau, explored and described by the Marquis de Vibraye. The floors of these caves were found to be composed of a superficial deposit of cave-earth containing Gallo-Roman antiquities, an underlying argillaceous stratum, wherefrom were taken several polished stone hatchet-heads, a lower bed of the same character in which occurred a few rough flint-knives in juxtaposition with reindeer and other bones, and beneath all a layer of grey gravel, wherein were discovered two

* Der fossile Mensch aus dem Neanderthal und sein Verhältniss zum Alter des Menschengeschlechts, von C. Fuhlrott, p. 52; Duisburg, 1865.

branches of a human lower jaw-bone with well-preserved teeth, several flint knives, and many bones belonging to five extinct and some recent species of quadruped. (Bull. Soc. Géol. de France, 1860, pp. 462-73.)

N.—Cavernes du Périgord, in the valley of Vezère, near Condat (Dordogne), to the number of ten, explored towards the end of the year 1863, by Messrs. Lartet and Christy, who exhumed from the undisturbed soil which forms their floors, the osseous remains of several extinct species of quadruped, a considerable variety of flint implements, and several engraved bones, whereon were very skilfully represented reindeer and other animals long departed from that region of Europe, and, in one instance (Grotte de la Madeleine), the human figure. More recent explorations of the caves of this district, executed by M. Lartet, junior, in 1869, have brought to light five gigantic human skeletons, associated with bones of mammoth, &c., three of the skulls being complete. (Sur des Figures d'Animaux gravées ou sculptées, et autres produits d'art et d'industrie rapportables aux temps primordiaux de la période humaine, par Ed. Lartet et H. Christy: *Revue archéologique*, 1864, pp. 233-267.)

O.—Cavernes de Bruniquel, in the valley of the Aveyron (Tarn-et-Garonne), France, discovered in 1863, by Vicomte de Lastie, and investigated in 1864 by Professor Owen. Here were disinterred a jaw-bone, teeth, and other portions of human crania; several implements of horn, and two of bone, whereon were engraved outline figures of the mammoth and head of the reindeer, associated with bones of the latter animal, the cave-hyena, and other animals long extinct in this part of Europe. (Theoretical Considerations on the conditions under which the Drift Deposits, containing remains of Extinct Mammalia and Flint Implements, were accumulated, and on their Geological Age, by Joseph Prestwich: *Philos. Trans.* (1864), vol. cliv, p. 276.)

P.—Cavernes de Furfooz, in the valley of the Lesse, near Dinant, Belgium, to the number of twenty-four, explored by Dr. Edouard Dupont, of Dinant, under the auspices of the Belgian Government, during several consecutive years, beginning with the year 1865, whence have been obtained many thousands of flint implements of the palæolithic type, a vast variety of instruments of horn and bone, and numerous human bones, associated with the fossil remains of extinct and other quadrupeds. Thirteen out of the twenty-four caves explored have yielded remains of the fauna of the reindeer period. The most important of the Furfooz caves are the

following :—Trou de Chaleux. In this cave were discovered, buried under masses of the fallen roof to the depth of nine feet, a very large number of flint-flakes, many instruments of reindeer horn, some of which were pierced with holes, and a paved fire-place whereon lay a mammoth's bone. "Man seems to have inhabited the Trou de Chaleux for a long time, to judge from the enormous quantity of remains which he left there, and he was probably driven hence by the fall of a large part of the roof. The great mass of stones which thus covered the soil abandoned by man, removes these numerous and interesting *débris* from all suspicion of having been disordered by any cause until the time when they were brought to light by the excavations of Dr. Dupont."*—Trou de la Naulette. Here, in 1866, was found a human jaw-bone "in undisturbed *lehm* or *limon fluviatile*, at a depth of three metres and a half from the surface, in a deposit of greyish-yellow sandy clay, which also contained remains of *Elephas primigenius* and *Rhinoceros tichorhinus*. This sandy clay is perfectly stratified, and above the spot where the jaw was found are two layers of stalagmite, which alternate with equally stratified beds of clay. With the jaw was also found a human arm-bone (ulna) and a fragment of reindeer horn, which apparently has been bored by some sharp instrument. Two human teeth were subsequently discovered, one of which fits the socket of the canine tooth of the jaw, and another, which was probably an upper incisor."†—Trou Magrite, explored by Dr. Dupont in 1867, and wherein were found vast numbers of palæolithic flint implements and an engraved section of reindeer horn, with bones of mammoth, rhinoceros, cave-hyena, cave-lion, &c. (*L'Homme pendant les Ages de la Pierre dans les environs de Dinant-sur-Meuse*, par E. Dupont; Bruxelles, 1871.)

Q.—In December, 1869, M. J. Reboux communicated to the Académie des Sciences, Paris, an account of an extensive collection of implements of flint and other stone, and animal remains, which he had been enabled to make, during the previous ten years, from some of the plaster and stone quarries situated to the north and north-east of Paris. These objects were found embedded in the soil at depths under the surface ranging from a foot or two to 40 feet, so that their

* Report on the Researches of Dr. Edouard Dupont in the Belgian bone-caves on the banks of the river Lesse, by C. Carter Blake: *Mem. Anthropol. Soc. Lond.* (1870), vol. iii, p. 346.

† On a Human Jaw from the Cave of La Naulette, near Dinant, Belgium, by C. Carter Blake: *Jour. Anthropol. Soc. Lond.*, July, 1867, p. 295.

deposition must have extended over a very long period. The implements consisting of knives, spear-heads, axes, hammers, wedges, saws, &c., belong, according to M. Reboux, to three distinct epochs, namely, the oolithic, characterised by the predominance of the cave-bear; the mesolithic, by that of the reindeer; and the neolithic, with which the stone objects found in connection with cromlechs and dolmens have a remarkable correspondence. Commingled with the human remains were bones of the following animals:—*Elephas antiquus* and *primigenius* (mammoth), *Cervus megaceros*, *Elaphus*, *Turandus canadensis*, *Belgrandi*, *Adamas*, and *alces* (elk); the horse, the ass, *Rhinoceros tichorhinus*, *Merckii*, and *etruscus*; the hippopotamus, *Sus scrofa* and *palustris*, *Felis spelæa*, the wolf, *Bos primigenius* and *indicus*, the auroch, sheep, beaver, hyena, a bird of the crane tribe, the *Trogontherium* and *Halitherium*; the two latter, survivors of the tertiary period, being found with the most ancient instruments. (Comp. Rend. Acad. Scien., t. lxi., p. 1260, Dec. 13, 1869.)

R.—King Arthur's Cave, near Whitchurch, Herefordshire, explored in the summer of 1871 by the Rev. W. S. Symonds. Excavations carried to the depth of seventeen feet, brought to light two distinct strata of cave-earth separated by stratified deposits of red sand, gravel, and silt, of the thickness of from three to four feet, and a floor of stalagmite more than two feet thick. In the uppermost of these strata, which was covered by a layer of stalactitic *débris* from the roof, containing morsels of Roman pottery, were found many bones and teeth of extinct species of animals, several flint-flakes, three implements of black chert, and a core of the same material from which flakes had been struck off. One of the implements lay close to the molar tooth of a young mammoth, and the chert core to the canine tooth of a hyena. From the undermost layer were taken several flint-flakes. In the paper giving an account of his operations and their results, which he read at the meeting of the British Association for the Advancement of Science held at Edinburgh in 1871, Mr. Symonds adduced excellent reasons for thinking that King Arthur's Cave had been used by men at a period when the configuration of the valley of the Wye was very different from what it now is, the bed of the river being then at a level several hundred feet higher than at present. (On the Contents of a Hyena's Den, by W. S. Symonds: *Geol. Mag.*, vol. viii, Oct. 1871, pp. 433–38.)

5.—Many other discoveries of bone-caves containing vestiges of

man have been made, but most of them, in respect to dates, measurements, and some other circumstances, have been too imperfectly recorded to be fit for insertion in the above descriptive list.* Some of the principal ones may, nevertheless, be mentioned, namely:—Kirkdale Cave, Kirby-moorside, Yorkshire; Oreston and Yealm Bridge, near Plymouth; Burringdon, in the Mendip Hills; Paviland, Glamorganshire; Grotte de Massat, near Tarascon; Caverne de la Chaise, near Vouthon; Grotte de la Vallière (Loire-et-Cher); Caverne de Pontil (Hérault); Grottes de la Balme et de Bethunas (Dauphiné); Grotte des Féés, Arcy-sur-Eure; Grotte de Vergisson (Saône-et-Loire); Grottes de la Sainte Reine et de la Fontaine, near Toul; Grotto del Diavolo, Gulf of Leuca, Calabria. (Grottes, par J. Desnoyers: *Dictionnaire d'Histoire Naturelle*, par C. D'Orbigny, t. vi, pp. 395–402; Paris, 1845. Le Hon: *L'Homme fossile en Europe*.)

B.C. 6500. I.—Period posterior to which cannot well be placed Max Müller's Dialectical stage of Speech in Europe and Western Asia, “during which we must suppose that at least two families of language left the simply agglutinative or nomadic stage of grammar, and received, once for all, that peculiar impress of their formative system which we still find in all the dialects and national idioms comprised under the names of Semitic (Syro-Arabian) and Aryan (Indo-European), as distinguished from the Turanian, the latter retaining to a much later period, and in some instances to the present day, the agglutinative reproductiveness which has rendered a traditional and metamorphic system of grammar impossible, or had, at least, considerably limited its extent. Hence we do not find in the Turanian languages, scattered from China to the Pyrenees, from Cape Comorin across the Caucasus to Lapland, that traditional family likeness which enables us to treat the Teutonic, Celtic, Slavonic, Italic, Hellenic, Iranic, and Indic languages on one side, and the Arabian, Aramæan, and Hebrew dialects on the other, as mere varieties of two specific forms of speech, in which, at a very early period, and through influences decidedly political, if not individual and personal, the floating elements of grammar have been arrested

* The Genista and other caves of Gibraltar, from which were obtained by Captain Brome, during the explorations carried on by him in the years 1863–68, large numbers of stone implements of very various ages, a great variety of other objects and some human bones, have been omitted, because they appear to contain the remains of few or no extinct animals.

and made to assume an amalgamated instead of a merely agglutinative character." *—See B.C. 10,000, II.

II.—At this time, when as yet, in all probability, the earliest of the great emigrant swarms from Central Asia westwards had not taken place, the primitive Aryan (Indo-European) tribes must be supposed to have been in the occupation of their common father-land.—Aryana-Vaedjo † of the Zend-Avesta, Uturu-Kuru of the Sanskrit Vedas. The traditional birth-place of the great Aryan race has by some been identified with the elevated table-land of Pamir (Upa-Meru, "Country of top of Meru"), also called Bam-i-dunia, "Roof of the World," whence the great rivers Amu Daria and Zarafshan take their rise, and the lofty mountain-chains of Kuen-lu, Himalaya, and Hindu-Kush radiate. This region, which is situated in the south-east corner of Independent Tartary (lat. 37° N., long. 73° E.), by reason of its great elevation, would perhaps sufficiently correspond with the Zend-Avestan statement as to the shortness of the summer and the length of the winter. But it is evident that such hazy localities as Aryana-Vaedjo, Uturu-Kuru, and Meru, like the Biblical garden of Eden, are never sufficiently defined, in the legends relating to them, to permit of their identification with any circumscribed district. The constant references found, in connection with them all, to the sources of great rivers and to mountains, would, nevertheless, seem to point to a high table-land like some of those which are so common in the extensive elevated region that lies between the headwaters of the Frat (Euphrates) and Daghele (Tigris) on the one hand, and the Amu Daria (Oxus), Syr Daria (Jaxartes), and Sindhu (Indus), on the other. (Bunsen : Egypt's Place in Universal History, vol. iv, p. 479.)—See B.C. 6000, 1-3 ; 5000, I ; 4500 ; 4000, I, 1-3 ; 3000, 4 ; 2750 ; 2500, I ; 2390 ; 2000, I ; 1500, I.

B.C. 6000. 1.—Period to which was said to go back, ac-

* Max Müller : Chips from a German Workshop, vol. ii, p. 9.

† There has long prevailed a pedantic fashion, now almost become a custom, of using, for the expression of Sanskrit and other Oriental words in English composition, accents in a way agreeable to the usage of the languages to which the words belong. As these accents are understood by comparatively few, and as, even if more generally understood, they have nothing to do with the language in which we are writing, namely English, we have thought fit to suppress them. A foreign word or name of any importance, popularly speaking, cannot be too soon Anglicized, which process must be greatly retarded by the use of outlandish accents. Instead, therefore, of Aryana-Vaédjô, we have written plain Aryana-Vaedjo, and will continue to treat in the same way all Oriental accented words.

cording to Strabo (iii. i. 6), the social organisation and comparatively-advanced culture of some of the Iberian tribes of Spain. There is nothing, except the prejudices created by the shortness of the universally-received Biblical chronology, to render this tradition entirely unacceptable. While containing, in all probability, a serious exaggeration, it belongs to a class of vague records which fulfil the requirements of archaic anthropology, such as those connected with the development of races, languages, mythologies, and architectural usages, much better than the inadequate chronological data of the Mosaic books. These considerations will, perhaps, be admitted as apology for associating with the Iberians, and the above tradition, the populations known as the Celts or Kelts, who were often connected with the Iberians by the ancients. The Celts are generally, and not without reason, considered to have been the earliest inhabitants of Europe of whom there is any historical knowledge ; but whether they were true aboriginals or Asiatic immigrants, and what was their relationship to the drift and cave-men, cannot at present be determined.—See B.C. 5000, I.

2.—Those who retain the habit of subordinating the course of primitive events to the chronological indications contained in the Bible, may be helped to realize the greatness of the lapse of time that is necessary to produce the displacement of one population by another, by being reminded that several of the most considerable peoples of Europe are, after the lapse of two thousand years, located very much as they were in the times of the Greek and Roman classical writers. The chief change that has taken place has been the substitution, in certain parts, of one language for another, which is so liable to be mistaken for a change in the elements of population. The people of Cornwall are just, or nearly, as much Celts now as when they spoke their own dialect, but to the public they seem no longer Celtic ; whereas the Welsh, who have retained their hereditary tongue, are on that account credited with being of the true Cymric stock, as indeed we otherwise know them to be. The Celtic-speaking peoples of the present day are divided into two great branches, namely, the Gadhelic or Irish,—embracing the Erse of Ireland, the Gaelic Highlanders of Scotland, and, perhaps, the Manx of the Isle of Man ; and the Cymric or British,—comprising the Welsh of South Britain and the Brezonecs or Armoricans of Brittany, to whom might have been added, some few hundred years ago, the Cornish, who, however, no longer speak a Celtic tongue.

3.—The affinities with the Indo-European family of languages which is possessed by the peculiar speech of the Celts, have caused it to be supposed that they originally were an immigrant people from Asia, and one of the branches of the so-called Aryan race. If this was the case, they in all probability belonged to a wave of Indo-European migration antecedent to those whereto have been referred the other so-called Aryan populations of Europe. The circumstance that their language has apparently been caused to recede to the extreme west by the pressure of newer comers from the east, might of itself almost be deemed sufficient evidence that the Celts were at all events earlier inhabitants of Europe than other supposed Asiatic immigrants. But to this consideration must be added the fact that the names of a large number of the great natural landmarks of Europe,—rivers in particular—have been formed from Celtic words, than which there can be no stronger proof of primitive connection with a country. Avon and Yonne, for instance, mean “river”; Yare, Yarrow, Gard, &c., come from *garw*, “rough”; Garonne is perhaps a compound of both; Dor, Dart, Dord[ogne] and such like are from *dwr* or *dur*, “stream”; Rhine and Rhone are referable to *rea* or *rhe*, “rapid”; and Don and Donau (Danube) have their origin in *den* or *don*, “deep.” As respects the originating of such names, the Celts take in Europe, the place which in northern Asia is held by the Turcomans and allied tribes, who are unquestionably as aboriginal as any existing races. The rivers in the latter vast region have, with few exceptions, names which in the Turkish dialects, but in no others, are expressive of their natural characteristics. Thus, whether the Celts were aboriginally connected with, or only very early Asiatic immigrants into Europe, they are the most primitive European people of whom any positive knowledge has been transmitted in writing. (The Eastern Origin of the Celtic Nations, by J. C. Prichard; Lond., 1845.)—See B.C. 6500, II; 5000, I; 4500; 4000, I, 1–3.

4—It is a commonly-received opinion that to the Celts are due the megalithic or ortholithic (so-called Druidical) monuments of Europe, consisting, for the most part, of alignments or avenues of parallel stone blocks, cromlechs (columnar circles), menhirs (separate columnar stones), dolmens (table-stones), cairns, barrows or tumuli, and more rarely of “bee-hive huts” and fortified villages.* But these structures are by no means exclusively Celtic,

* With these may perhaps likewise be classed the great shapeless stone figures called *bolvans*, which are found in some parts of South Russia.

nor even peculiar to Europe.* They have been found to extend through North Africa, Syria, Arabia, and Persia to India, where, in some districts, they are extremely numerous. The most gigantic ortholithic monument hitherto discovered is, perhaps, the great dolmen of Tiaret, near Oran, in Algeria, which is 65 feet in length, 26 in breadth, and $9\frac{1}{2}$ in thickness, and rests on supports that raise it 35 feet above the ground ; while the most complete system of such erections at present known, would appear, from the recent Ordnance Survey of South Palestine, to exist in the barren regions of El Tih and Sinai. (The Early Races of Scotland, by Forbes Leslie ; Edin., 1866. Vestiges of Ortholithic Remains in North Africa, by A. Henry Rhind : *Archæologia*, vol. xxxviii (1860), p. 255. The Desert of the Exodus, by E. H. Palmer ; Lond., 1871.)

5.—Much uncertainty has prevailed as to the purposes which were served by the more peculiar of the ortholithic structures, namely, the cromlechs or circles, the dolmens, and the menhirs. Systematic exploration of a large number of them, in various countries, has now apparently proved that the objects of the erection of the circles, with their associated avenues, and the dolmens, were sepulchral and sacrificial, and that the menhirs were, for the most part, memorial. That this was the case, indeed, hardly required the evidence of elaborate research, since these are the characteristics of most monumental antiquities. The remains of even the classic ages are generally little else than temples and tombs. Much controversial argumentation has been expended to prove, on the one hand, that sacrifice or worship was the object of the circles and dolmens, and, on the other, that their purpose was sepulchral. But when it is borne in mind that the religious rites of almost all primitive peoples consisted in the worship of deceased ancestors or chiefs, it becomes obvious that under such conditions sepulture would naturally be connected with sacrifice. The discovery in Eastern Bengal of a primitive tribe,—the Kasias, who have retained to this day the custom of erecting ortholithic monuments for the purposes above specified, affords additional confirmation of the correctness of this view of the subject, which is further corroborated, in respect to

* Recent researches, by the Hon. E. G. Squier, have shown that the primitive Peruvian structures called *intip-huatanas* and *chulpas* correspond in a remarkable manner to the cromlechs and “beehive huts” of the Old World. (The Primeval Monuments of Peru compared with those in other parts of the World, by E. G. Squier ; Philad., 1870.)

the object of the menhirs, by the practice which still prevails in Madagascar of setting up isolated monoliths for memorials of certain transactions and events. In the Hebrew Bible, moreover, are found many allusions to stones of the latter kind, which, also, are instances of the survival of this primitive practice among a people who were then in much the same stage of culture as the modern Madecasses. (The Kasia Hills and People, by H. Yule: *Journal of the Asiatic Society of Bengal*, new series, vol. xiii, pp. 617-19; Calcutta, 1844. On the Stone Monuments of the Khasi Hill Tribes, and on some of the Peculiar Rites and Customs of the People, by H. H. Godwin-Austen: *Jour. Anthropol. Inst.*, vol. i. (Oct. 1871), pp. 122-140.)

6.—The most constant indication afforded by the examination of cromlechs and dolmens is that they always contained at least one tomb. Some of the latter, it is true, are so placed and constructed as hardly to have been suited for places of burial, and excavations under them have failed to bring to light any human remains. Dolmens in general, however, so closely resemble in structure the stone cists or kistvaens which are found in all barrows and cairns, as to have given rise to the opinion that they were, when first made, concealed under piles of stone or earth, but have since become denuded, or else that they were intended to be so concealed but had not been covered up, perhaps because, having been erected during the lifetime of the builders, as their tombs, circumstances had prevented the use of them which was intended. It is more probable, however, that these bare cists were cenotaphs, for the Kasias are reported to make great use of such memorial erections. The cromlech sepulchres were placed near the centre of the circle and were surmounted by a pyramidal cairn. In these tombs, when found intact or nearly so, incinerated bones have often been met with, giving the impression that they had been used for the reception of more than one body. Most of the known ortholithic circles are so degraded as to have lost almost all traces of their original arrangement; but some few have been discovered which clearly exhibit their plan. At Callernish, in the Island of Lewis, is one whose exploration has furnished very instructive results. It consists of a triple circle of monoliths, having four crucially-placed parallellithic avenues of approach, with a circular cairn in the centre. These stones had become buried with peat or turf to the depth of from five to six feet. In 1861 the deposit was cleared away by Captain F. W. L. Thomas, acting under the auspices of Sir James Matheson. There was discovered a platform composed of rough causeway, and resting upon

the boulder clay, whereon the structure was erected. The cairn, when opened, was found to contain two sepulchral chambers in excellent preservation, having in them bones which showed signs of the action of fire. (On the Geological Age of the Pagan Monuments of the Outer Hebrides, by F. W. L. Thomas: *Edin. New Philos. Jour.*, new series, vol. xv (1862), p. 235.)

7.—For other equally complete examples of cromlech circles, it is necessary to go to no less remote a region than the wilds of Southern Palestine, where the sparseness of the population and the superstitious fears and want of curiosity of the few persons who frequent that country, have played the same conservative part as the peat in the Island of Lewis. One of the results obtained by the recent Ordnance Survey of the tract in question, has been the discovery of a large number of structures of the ortholithic kind, consisting principally of circles and "bee-hive huts." The descriptions of the former which have been published, correspond in a remarkable manner with Captain Thomas's account of the Callernish monument. In the middle of the circle was found a cairn composed of large boulders and enclosing a chamber or cist, wherein was a human skeleton in a bent position, and, between the cairn and the circular fence, a species of round hearth surrounded by stones, which seemed to have served for the incineration of animals offered in sacrifice, or of human bodies. Flint implements of the neolithic variety have been found near these Palestinian circles. (On the Ordnance Survey of Sinai, by C. W. Wilson: *Proceed. Roy. Inst. Gr. Bn.*, Feb., 1870, p. 85.)

8.—The structural connection between ortholithic circles and tumuli or barrows can easily be traced in those instances of the latter, wherein the whole interval which separates the central sepulchre from the surrounding ring of stones, is filled in with earth. Of these the celebrated tumulus of New Grange, near Drogheda, Ireland, is a remarkable example. It consists of a closely-set circle of enormous unhewn upright stones with three central cists composed of heavy slabs, the whole being covered with earth, and forming a kind of pyramid, which must have been originally more than a hundred feet in height. A slab-lined passage, which is 62 feet long, 3 feet wide, and 2 feet high, leads from the exterior to the sepulchral chambers. Tombs of this description could hardly serve for anything else than mere places of burial, while those which stood within open stone circles were, in all probability, the sepulchres of chiefs, to whose spirits religious rites were offered. The

New Grange monument possesses, moreover, special interest in the remarkable resemblance which its general plan presents to that of the pyramids of Egypt.—See B.C. 3594, 2.

9.—In some few of the places where these structures abound the dwellings of their builders have been found, in the shape of round stone huts, composed of walls which rise perpendicularly for about two feet, and are at that height surmounted by a dome-shaped roof formed of courses of flat stones, gradually contracting towards the summit, spaces of about two feet square being left in the low wall for doors. The best-known examples of these primitive habitations in the British islands occur on Dartmoor, in Devonshire, where they are particularly numerous, and in some instances are arranged in groups surrounded by a defensive wall forming fortified villages. Groups of the very same kind, but, so far as is known, without the common inclosure, have been discovered in Southern Palestine, which is thus proved to have been formerly a comparatively well-peopled country. This circumstance, even more than the occurrence, in widely-separated parts of the world, of cromlechs and dolmens shows that ortholithic structures are not peculiar to any race of people, but are the spontaneous productions of man in a primitive stage of culture. At the time when they were in general use they no doubt satisfied the wants of mankind, just as modern buildings, with their lofty perpendicular walls, carrying one or more horizontal floors having numerous doors and windows, are universally provided at the present day, in accordance with the requirements of all but the most savage populations. The unimportant differences which have been observed to distinguish the ortholithic monuments of one country from those of another, have their parallel in modern times in the local and national styles of construction, which, nevertheless, all belong to one and the same phase of more advanced culture. (Report on the Prehistoric Antiquities of Dartmoor, by C. Spence Bates: Proceed. Ethnol. Soc. Lond., in *Journ. Anthropol. Instit.*, Jan.—July, 1871, p. c.)

10.—At first sight, it seems difficult to understand how men, destitute of the mechanical appliances which are universally made use of by the moderns on such works, could collect the necessary materials and place them in position. But this difficulty has been successfully removed by a Royal *savant*, who gave his special attention to the subject. In an extremely interesting series of papers, which he read before the Northern Society of Antiquaries, Frederick VII., king of Denmark, clearly showed, that by the skilful

use of inclined planes composed of earthworks, and of wooden rollers and rams, and an unlimited amount of manual power, the heaviest materials could be transported and set up. If we are not mistaken, these are the very means that the Kasias of Eastern Bengal have been observed to employ at the present day in the erection of the ortholithic monuments which it is still their custom to make. The part which King Frederick has assigned, in the execution of these structures, to earthworks, serves to explain the presence of the vast mounds that are connected with some of the cromlech circles, as, for instance, that of Avebury. According to his theory, these mounds might have been formed from the earth used for the inclined planes, by means of which the monoliths were elevated and tilted into position. (On the Construction of Cromlechs, by King Frederick VII. of Denmark : *Ulster Journal of Archæology*, vol. vii, p. 314 ; Belfast, 1859.)

11.—There is, however, another variety of ortholithic structures whose execution demanded the use of metal tools either of bronze or of iron. To this kind belong the mighty columnar circles of Stonehenge and Avebury, which present certain evidences of a knowledge of the art of stone-hewing and of complex mechanical contrivances for adjusting heavy materials. Attentive and minute study of these vast constructions, has placed it beyond reasonable doubt that their erection required the exercise of architectural skill and the practical art of the quarryman and the mason, and, moreover, that when completed they were no mere "taboo" circles of unenclosed stones, but edifices, properly so called. As they now appear, the columnar monoliths of Stonehenge, with their well-fitted superimposed blocks, are but the skeleton of a vast building which was completed with timber, the interstices between the columns having been filled up with wood, and the whole covered over by a wooden roof, for whose support the columns that remain in the centre were used. According to this view, Stonehenge was a magnificent circular hall or temple, resembling in character the conical-roofed churches of Abyssinia. This and similar buildings, though belonging to the same order of civilization as the ruder ortholithic erections, represent the most advanced development of such works, when the age of bronze, or perhaps that of iron, had arrived. (Pre-historic England : *Brit. Quart. Rev.*, vol. 1, p. 396 ; Lond., 1869.)

B.C. 5689.—Eve of the Biblical "creation" (according to the widest chronological interpretation of the Mosaic books known

previous to the rise of geological science, namely, that of the Jewish historian Josephus*),—when nothing material whatever existed, and neither motion nor sequence of events being possible, time itself was not. There was wanting even chaos to occupy boundless space, which, nevertheless, was pervaded by an immaterial being,—God, of infinite extension but devoid of position, who yet was, and, if astronomical and geological science can be relied on, had been for millions of ages pregnant with the design of the forthcoming creation; the crowning feature of which design being the earth with its human inhabitants, and the final object the gathering together of the latter, after death, in two great, but very unequal groups,—the good and the bad,—in certain regions above and below the earth, and their eternal fixation there subsequent to the destruction of all the things which were now on the eve of being created.

B.C. 5688. 1.—God, according to the chronology of Josephus, creates “the heavens and the earth and all the host of them” in the course of six days and out of absolute vacuity and nonentity, and rests from his labours on the seventh day. When it had not yet become the fashion to believe that Holy Writ required to be reconciled with science, the days of creation, bounded as they are said to have been by evening and morning, were taken to be ordinary solar days. After geological science, by revealing the slow but constant and, hence, enormously-prolonged nature of the changes to which the earth has been subject, had rendered it no longer possible to compress the creation, even with the help of the theory of *lusus naturæ*, into six common days, the idea arose to substitute in their place “creative periods” of indefinite length. It would seem, however, to have escaped notice that this view of the nature of the six days of creation demanded for the day of rest (the seventh) a similar character of duration, which would entail a negation of the active government

* The epoch assigned by Josephus to the “creation” is more remote than that fixed on by any other extant interpreter. It is, however, much more likely to be in accordance with the numbers of the ancient Jewish Bible than that obtained from the numbers of the Talmudic codices. At the time of publishing his “Antiquities of the Jews,” Josephus had had twenty-eight years in his library the actual temple copy of the Old Testament which was in use at the time of the fall of Jerusalem, Titus having made him a present of it soon after the catastrophe.

of God ever since the world came into being and for an indefinite period yet to come.

2.—The vastness of the results of these gradual changes, when stated, will help to give some faint idea of the immensity of time during which they must have been in operation. Of formations which have been gradually produced, the crust of the earth contains stratified azoic (without signs of life) rocks seven miles in thickness, and sedimentary fossiliferous strata eight miles thick, including the enormous vegetable remains of the coal-measures, the still vaster animal *débris* of the cretaceous system, and the widespread drift deposits, which bear evidence of a glacial epoch calculated by Lyell to have lasted not less than 200,000 years. The structure of all of these strata testifies to their formation by sedimentary deposition from water, which must have been a very slow process. It has been calculated, that if the sediment of all the rivers on the globe were spread over the bottom of the ocean, it would require one thousand years to raise its bed one foot. At this rate it would require 42,240,000 years to produce a deposit of the thickness of the sedimentary fossiliferous strata. (Physical Geography, by Mary Somerville, p. 25 ; Lond., 1862.)

3.—But it is no better than labour lost to attempt to meet the exigencies created by science for the Biblical cosmogony, by modifying one of the expressions of the Mosaic account of the creation. The ideas involved in the making of "every plant of the field *before it was in the earth*," and of "every herb of the field *before it grew*" (Gen. ii, 5), and in the formation of the human male from the dust of the ground without the female, and the latter as if an after-thought from the male, are evidently as inconsistent with natural science as is that of calling into being in the space of a few ordinary days a planet replete with evidences of progressive evolution. They clearly belong to one and the same phase of culture, namely, that which preceded the observation and scientific interpretation of facts, and, as such, cannot fairly be expected to be even partially in conformity with the teachings of science.

4.—The Mosaic cosmogony, which harmonizes so ill with the facts of geology, is quite as little in harmony with those of astronomy. Creation, a few thousand years ago, of heavens and earth is in direct antagonism to the latter. Telescopic observation and the modern science of the stars have revealed to us countless millions of astral bodies,—solar systems consisting of sun, planets, satellites, comets, and asteroids, sweeping through space, as the one to which

our earth belongs is doing at the rate of 150 millions of miles per annum towards a point of attraction between the constellations Hercules and Lyra, and forming, with a certain amount of diffused nebulous matter, sidereal clusters or galaxies, to each other appearing as nebulae, like the "milky way," whereof our solar system is an insignificant portion,* some of which, as for instance the 75th cluster of Messier's catalogue, are so remote that their light, travelling at the rate of 192,000 miles per minute, could not have reached the point where we are placed in less than 700,000 years. And these are no inert masses to be severally called into being or obliterated by arbitrary fiat, but a boundless concatenation of bodies replete with interchanging energy. We see measureless volumes of luminous vapour controlled by irresistible forces, star-mist condensing into clusters, star-clusters forming into suns, streams of minor orbs swayed by inherent attractive energies, and primary suns, singly or in systems, pursuing their stately paths through space, extending on all sides the mighty arm of their attraction, gathering from ever-new regions of space supplies of motive power to be transformed into the various modifications of force,—light and heat and electricity, and distributed in lavish abundance to the worlds which circle round them. (The Heavens, by Amedée Guillemin, translated by J. Norman Lockyer; Lond., 1866. On Star-grouping, Star-drift and Star-mist, by R. A. Proctor: *Proceed. of Roy. Instit. of Gr. Brit.*, vol. vi, p. 152, 1870.)

5.—Of anything in the smallest degree analogous to what is intended to be expressed by the word "creation,"—that is creation *ex nihilo*—we have no experience whatever; for the works of man, as for instance a watch or a pin, are but modifications of pre-existing materials, which, only so far as they put on distinctiveness of form or arrangement, can be remotely likened to creations. Men are naturally prone to assume that because human works have had a personal maker, natural existences must also have had a personal author. But such distinctive characters as the former possess are as much beyond the powers of nature to produce as is natural individuality beyond the powers of man. To contrive and create individualisms in the sense of modifying natural materials into distinctive artificial objects, in accordance with past experiences,—

* Our sidereal cluster contains not less than 18 millions of stars, spread over a space so vast that 10,000 years would be required by a ray of light to traverse it, in the direction of the most distant region accessible to our vision.

in other words, to design and execute—is one of the attributes of man. Human creations, however, are distinguished from the things of nature by the absence of growth and reproductive power. Hence it cannot be reasonably argued that as the former are products of a personal author or authors, so the latter must have had a similar kind of authorship. On the contrary, natural objects, being diametrically opposed in constitution and mode of production, must have had a totally different history. Our experience teaches us that production from antecedent materials and potentialities is the law of being of all natural bodies of which we have any knowledge. Operating in continuous sequence, these antecedences constitute an unbroken series of cause and effect. To attempt to draw a line in the past on the farther side of which this law was inoperative, would be as futile as it would be impossible to know where to trace it. The most accurate idea that can be formed of “creation” in respect to time, consequently, is infinite antecedence or retrogression.

B.C. 5687. 1.—Man, in the persons of Adam and Eve,—the product of the sixth day’s labour of the creator and crowning work of the creation,—after inhabiting in primeval simplicity and innocence the garden of Eden, suddenly expelled therefrom for having partaken of the forbidden fruit. The first human couple had hitherto lived in a state of nudity, and destitute not only of the most rudimentary of those implements and contrivances which distinguish man from the beasts, but also of the means of making them. On the occasion of their expulsion from Eden, however, God, knowing their helplessness, took the precaution specially to provide them with coats of skin of his own making. (Gen. iii, 21.) Taking this as the measure of the proficiency of Adam and Eve in the arts of life, they and their immediate descendants must be supposed to have lived, during long ages, the life of savages. But it is extremely doubtful whether savages, totally destitute of tools, weapons, and implements of every kind, could manage to exist. Deprived of the peculiar hook called “pileyah,” wherewith he extracts from timber, earth, &c., the larvæ which form an important part of his food, the Australian savage would have his means of subsistence seriously curtailed. The South African, who, to a very great extent, is dependent for a sufficiency of diet on certain hard-husked grains which are exceedingly difficult to decorticate, would, it is said, find it impossible to use them for food without the

contrivance which he has invented for the extraction of their farinaceous kernel. It is the opinion of Dr. Livingstone, whose acquaintance with the savage races of Africa is so great, that they could not continue to subsist in an absolutely natural state. "Although possessing a knowledge of all the edible roots and fruits in the country," he remarks on this subject, "having hoes to dig with, and spears, bows and arrows to kill game, we have seen that notwithstanding all these appliances and means to boot, they have perished of absolute starvation. Since we find that men who already possess a knowledge of the arts needed by savages, are swept off the earth when reduced to a dependence on wild fruits and roots alone, it is nearly certain that if they ever had been in what is called a state of nature, from being so much less fitted for supporting and taking care of themselves than the brutes, they could not have lived long enough to attain even to the ordinary state of savages. They could not have survived for a sufficient period to invent anything."*

2.—Let us, nevertheless, picture to ourselves a human being, such as a newly-made savage would be, with no means of defence or attack, save stones which he might pick up, and branches of trees which he might be able to break off and trim with his naked hands and his teeth, living upon such small quadrupeds, reptiles, and insects as he might manage to capture, or upon the more easily-secured molluscs and annelids (fruits and roots, being so often of a deleterious nature, would hardly be available for food without long experience), and destitute of fire, which the very lowest savages now possess and use for cooking, and we shall find that we have before us an individual leading the life of a wild animal and not that of a human being. Thus man, if he could exist at all in an absolutely natural condition, could only do so in a state wherein his humanity would be all to his disadvantage. But this, being equally opposed to the principles of teleology and evolution, is inadmissible. On the contrary, true humanity,—that which capacitates for leading an artificial life, is much more likely to have being developed from a being having a smaller measure of human nature than the modern savage, but possessed of a constitution fitting him to subsist in a purely natural condition, yet endowed to a certain extent with the faculties of observation and invention and a capacity for culture. This being would be the hypothetical "missing link," of which archaic anthropology has hitherto failed to discover the traces, but which would seem to be

* Livingstone : Expedition to the Zambesi, p. 507.

a theoretical necessity. The first step of such a creature towards the true or artificially-living man, would be the discovery by him in flint, of the property of splitting into fragments, having cutting edges wherewith wood might be attacked and fashioned. On a level with this advance may be placed the discovery that the violent and continued friction of one piece of wood upon another gives rise to fire. Before these two discoveries, wherein lay the germs of all human civilization, the existence of mankind proper was seemingly impossible.—See B.C. 10,000, I, 18.

3.—The apparent impossibility of the first man—Adam—being able to exist without some knowledge of the arts of life, has always been felt by those who indulge in rational reflection. It has been usually got over by imagining that he received instruction on the subject directly from God. But the Biblical record, from whence comes all that is known of Adam, not only makes no mention of any such instruction, but informs us that, instead of instructing him in the art of making coats of skin, God made them himself, and presented them to Adam, and then turned him out of the Garden of Eden. The question of the extent to which man received direct divine instruction in social culture, must be relegated to that category of antiquated problems which comprised the question as to whether Adam, who could not have had any placental attachment, was made with a navel.

B.C. 5509.—Era of Constantinople, which was adopted by the Œcumenical Council held at Constantinople in A.D. 381, as the date of the creation, in accordance with the chronology of Julius Africanus, and since maintained by the Greek and Armenian churches.

B.C. 5500.—Approximate age, according to the calculations of Professor Morlot, of Lausanne, as to the rate of formation of the Cone de la Tinière, near Villeneuve, Switzerland, of the deeper and more ancient of the strata of which it is composed, wherein, at the depth of fourteen feet under the present surface, have been found fragments of rude pottery and stone implements. This curious conical delta is formed, in the bed of the Tinière rivulet, from the detritus which is brought down by the stream during floods. A railway-cutting that was made through it in 1860, brought to light a regular succession of human remains, namely, flint implements of the palæolithic and stone tools and weapons of the neolithic age, and

instruments of the bronze, iron, and Roman periods. Professor Morlot has come to the conclusion that the entire cone must have been more than 10,000 years in forming. (*Une Date de Chronologie absolue en Géologie*, par A. Morlot: *Archives des Scien. phys. et nat.*, t. xiii, p. 308; Genève, 1862.)

2.—In connection with these observations, it may be well to state that fossil stone implements of the neolithic class do not exclusively belong to pre-historic times. They have been found associated with undoubted Roman remains, in such a way as to prove that they were contemporary with the latter, and consequently that the use of instruments of this kind, in certain regions, extended down to a comparatively recent period. Instances of their occurrence in such circumstances have been observed in the Isle of Thanet, at Worle Hill near Weston-on-Sea, at Hurdham in Sussex, and also in Auvergne. (*Jour. Ethnol. Soc.* April, 1869, pp. 1-12.)—See B.C. 3000, 3.

B.C. 5439.—Era of Alexandria, at which was fixed the "creation," in accordance with the interpretation of Scripture adopted by the Church Council, held at Alexandria, in the year A.D. 362.

B.C. 5390.—Creation of the heavens and the earth, according to the interpretation of Scripture which was followed in the Septuagint version.

B.C. 5369.—Period to which the Indians carried back their history in the time of Alexander the Great, according to Megasthenes, as cited by Clement of Alexandria.

B.C. 5040. 1.—Establishment in Egypt of the first Dynasty of Kings, according to the following passage from Diodorus Siculus:—"The Egyptians allege that the native Kings of Egypt reigned there for the space of 4,700 years, and that their country during all that time was the most prosperous and flourishing kingdom in the world." (*Diod. Sic.* i, 2.)

2.—This statement, whatever may be its historical value, clearly gives the Egyptian opinion as to the total duration of the dynasties of Egypt. It agrees so nearly with the sum of the reigns of the native kings from Menes to the Persian conquest (B.C. 527), according to Manetho, as hardly to leave room for doubt that

Diodorus derived his knowledge either from that writer's historical works, or from the authorities on whom he relied. In either case, it furnishes us with the proof that none of the dynasties set down in the royal lists were, by the Egyptians, considered to have been contemporaneous.

B. C. 5004. 1. — Commencement of the reign in Egypt (according to Mariette-Bey) of Menes, who, by the unanimous voice of classical antiquity and the Egyptian monuments, was the first Pharaoh. With the object of adapting Egyptian history to the supposed requirements of the Hebrew Scriptures, most chronological writers have been in the habit of arbitrarily curtailing the annals of Egypt. More or less influenced by this desire, many Egyptologists have adopted the theory that a considerable number of the dynasties of Egyptian kings were not successive but simultaneous. Thus Brugsch has placed the commencement of the reign of Menes in the year B.C. 4455, Lepsius in 3896, Bunsen in 3623, R. Stuart Poole (*Encyclopædia Britannica*) in 2717, Wilkinson in 2320, and Sharpe so late as 2000. But Mariette-Bey has succeeded in showing that Manetho, the extant fragments of whose work, entitled "*Egyptiacæ*," are our main guide in respect to early Egyptian history, must have made allowance for contemporaneous dynasties when they did exist, by eliminating from his lists those that were collateral with the legitimate kings. If Manetho had counted contemporaneous dynasties as successive, his lists would have included as such the Theban Pharaohs, who were the rivals of the Hyksos kings, of which his 15th, 16th, and 17th dynasties consist, and whose existence has been revealed by the recovered hieratic literature, and confirmed by several monumental inscriptions (see B.C. 1704); the priests who ruled at Thebes when the 21st dynasty reigned at Sâh; the seven or eight independent sovereigns who were contemporaneous with the 23rd dynasty, and the dodecarchy that established itself towards the end of the 25th dynasty,—which, on the contrary, they do not. Nothing has yet been discovered to prove that any two of the dynasties represented by Manetho as successive were collateral; whereas the monuments contain proofs that some of those dynasties which have often been set down as contemporaneous were not really so, such as the 5th and 6th, both of which are distinctly shown to have reigned at Elephantina, as well as at Memphis, and consequently over the whole of Egypt; the 11th, a king of which, namely Neb-ka-ra, is

mentioned in one of the Berlin papyrus rolls as reigning both over Upper and Lower Egypt, and likewise the 13th (Theban) dynasty, whose kings have left their mark on the colossi of Sâh, on the coast of the Mediterranean. (*Aperçu de l'Histoire ancienne d'Égypte*, par Auguste Mariette Bey, pp. 65-68 ; Paris, 1867.)

2.—Some, not content with attempting to discredit the Manethonian records, have gone the length of repudiating, as untrustworthy, the whole of the results obtained from the discoveries of Young and Champollion. According to them, the modern system of deciphering the writing of ancient Egypt is entirely fanciful and illusory ; but so far from this being the case, it may, with confidence, be held that no discovery whatever of the kind has so satisfactorily stood the test of continuous verification. The soundness of the principles on which the pioneers of Egyptological learning interpreted the hieroglyphic and demotic portions of the Rosetta stone inscription, has been confirmed, in the most remarkable manner, by the success which has attended the application of those principles to the deciphering of another bilingual inscription recently discovered on the site of ancient Canopus. If the system had not been the right one, it must have broken down when confronted with the Canopus decree. (The Decree of Canopus, by Samuel Sharpe ; Lond., 1870.)—See B.C. 238.

3.—The state of mutilation in which Manetho's lists have been received from Julius Africanus and Eusebius, through Syncellus, each of whom, to some extent, distorted and confused them, in accordance with his own views of so-called sacred history, detracts unfortunately from their value in matters of detail ; but everything goes to show that if we had received them unimpaired, we should be in possession of a trustworthy catalogue of the Pharaohs. The only safe course, then, is to endeavour to re-establish the defective details, but to refrain from attempting to overthrow the system on which they were constructed by inventing new schemes in accordance with foregone conclusions as to the duration of the Egyptian monarchy and the date of its foundation.

4.—A remarkable confirmation of the validity of the Manethonian lists, as regards the 142 kings of the Old Monarchy (first to eleventh dynasty inclusive), who were the only pyramid-builders, is furnished by the seventy pyramids, which can be counted at the present day, and is still further corroborated by the recognition on the monuments of the names of no fewer than eighty of those kings. In order

fully to apprehend the importance of these monumental confirmations of Manetho's literary record, we ought to try to realize the effect that would be produced on the public mind by the discovery of authentic contemporary monuments bearing the names of one-half of the patriarchs of the Hebrew Scriptures. It may also be observed that the sum of all the Manethonian dynasties varies, according to our present sources, from 4,685 to 5,049 years, which shows a discrepancy between the extremes of only 364 years; whereas, that exhibited by the extreme interpretations of the Bible chronology amounts to 2,115 years. Further corroboration of the accuracy of Manetho is afforded by comparing the duration of his dynasties and the average length of the reigns of his kings, with those of the only other series of historical records which have the pretension to cover an equal number of centuries. It will be seen from the following table that, according to the Manethonian history, Egypt stands midway between China and Cashmere:—

	Duration of Monarchy.	Number of Dynasties.	Average Length of Dynasties.	Number of Kings.	Average Length of Reigns.
China.....	4,459	24	186	261	17'00
Egypt	4,477	26	172	225	19'00
Cashmere, according to the Raja-tarangini History ...	4,156	—	—	200	20'75

The result of this comparison is calculated to give confidence in these several sets of annals, since it is not probable that so close an agreement would be found if one or more were fanciful.*

* The authentic annals of modern states give results in conformity with the above. Thus:—

	Duration of Monarchy.	Number of Kings.	Average Duration of Reigns.		Duration of Monarchy.	Number of Kings.	Average Duration of Reigns.
France...	1,389	81	17'00	Poland...	953	48	19'00
Denmark	1,035	51	20'00	England	804	36	22'50
Russia...	993	62	16'00	Turkey	560	31	17'00

5.—Although satisfied that the departures from the Manethonian annals which have been proposed are all little better than conjectural, we have thought it best, in order to avoid the adoption of apparently extreme views, to follow, in respect to Egyptian events, the chronology of Brugsch, which has the merit of being based on extensive research and much special learning.—See B.C. 4455.

B.C. 5000. I.—Time when, probably, had already been accomplished the main migrations from Central Asia, and settlement throughout Europe of the Indo-European (Aryan) tribes, which, by commingling with the autochthonous races, gave rise to the population known to the ancients by the name of Pelasgians, from whom were derived most of the peoples of Italy, Greece, and Asia Minor, and who are perhaps best represented at the present day by the Albanians or Skippetar, as well as to those more widely diffused populations which afterwards came to be distinguished as Celts, Scandinavians, Germans, Letts, Slaves, &c., and, indeed, to all the inhabitants of Europe, except the Lapps, Fins, Esths, Magyars, Turks, and perhaps the Basques, or Euscaldunacs, as they call themselves, all of whom are of non-Aryan descent, and probably remnants of the once mighty Ugrian nation. In their migrations these tribes naturally carried with them their superstitions, myths, tales, and observances, as well as their language, which is supposed to have been a proto-Aryan form of speech, whereof the Dardee tongue now spoken in Dardistan, according to Dr. Leitner, of Lahore, who has recently explored that country, and investigated its language, still retains many of the peculiarities. To this are supposed to be due the remarkable affinities which exist between the folk-lore, fables, customs, and languages of India and those of Europe. According to the first fargard or chapter of the Zend-Avestan book Vendidad, as usually interpreted, there were fourteen "lands

It is otherwise with annals of doubtful authenticity: these manifest their fabulous character by wide divergence from the natural average. Thus:—

	Duration of Monarchy.	Number of Kings.	Average Duration of Reigns.		Duration of Monarchy.	Number of Kings.	Average Duration of Reigns.
Bohemia	557	12	46'50	Athens...	486	11	44'00
Argos ...	516	13	39'00	Boeotia...	370	6	60'00

of settlement" of the Indo-European tribes. (The Earliest Inhabitants of Italy, by Theodore Mommsen; Lond., 1858. Anthropol. Rev., Jan. 1868, p. 117.)—See B.C. 6500, II.; 6000, 1-3; 4500; 4000, I, 1-3; 3000, 4; 2750; 2500, 1; 2390; 2000, 1; 1500, 1.

II.—Age of the undermost of the stratified fluviatile deposits of which some of the pile-supported banks of the river Saône are composed, wherein occur, in regular succession, modern, Gallo-Roman, bronze and polished stone implements, according to the lowest estimate made by MM. De Ferry and Arcelin as to the rate of their deposition. (Les Gisements archéologiques des Bords de la Saône, par H. De Ferry; Macon, 1868.)

B.C. 4790. 1.—Beginning, as a sapling, its long career, the great cypress-tree (*Taxodium distichum*) of Santa Maria del Tule, in the province of Oaxaca, Mexico, whose diameter, according to the measurement of Exter, subsequently confirmed by Zuccarini, was forty feet in A.D. 1849. After deducting three feet for the bark, the semi-diameter, consequently, measured 222 inches. Allowing to each inch thirty concentric rings of annual growth, 6,660 years is obtained as the age of this cypress, in the year 1870. That this allowance per inch is not too much, may be ascertained by any one who will take the trouble to count the number of annular marks in an inch width of a pine board of good size, at the point where the sap- and heart-wood meet. Old trees, moreover, produce greatly thinner layers of wood than those from which ordinary pine boards are obtained, and very old trees still thinner in proportion. Towards the centre of almost all exogenous trees, where lies the wood which was deposited when the tree was young, the circles of annual increment in a given amount of timber are comparatively thick and few in number, but at some little distance from the centre, and thence onwards to the circumference, where the wood is the production of the tree at maturity and in old age, they are extremely attenuated, and often so close together as to render their enumeration most difficult. In the trunk of a fossil taxodium which was dug up at New Orleans, more than ninety annual rings were counted in the inch of wood.* (Lyell: Prin. Geol., 10th ed., vol. ii, pp. 44-5.)

* This tree was found, in 1850, in digging for the foundation of the New Orleans gasworks, at the depth of fifteen feet below the surface, and underlying three successive fossil forests of live-oaks, some of the individual trees of which proved on examination to be 1,500 years old. Beneath the roots of the cypress

2.—There exist in other parts of Mexico, as well as in some of the Southern States of the North American Union, cypress-trees of very great size, though much inferior to the one above-mentioned. The most famous is the cypress of Chapultepec, near the city of Mexico, which has a diameter of 18 feet, and consequently an age of 3,240 years. At Ahuehuete, also in Mexico, is a hollow tree of the same species, which measures 20 feet across. In Louisiana and Florida, Michaux, the traveller and naturalist, met with several cypresses exceeding 13 feet in diameter. (Lyell: *Second Visit to the United States*, vol. ii, p. 254. Anahuac, by E. B. Taylor, p. 215; Lond., 1861.—See B.C. 3397; 3350; 2270.

3.—The Santa Maria cypress, and trees of similar dimensions, if the short or Rabbinical chronology of the Bible were correct, could have had no predecessors, but must have been of the original trees which were formed out of nothing at the creation, “before they were in the earth.” (Gen. ii, 5.)

B.C. 4714. — Era from which is reckoned the Julian period invented in A.D. 1583, by Joseph Scaliger, for the purpose of bridging over correctly the point of union between the descending scale of B.C. with the ascending scale of *anno Domini*. The basis of the Julian period was the correspondence every 7,980 years of the twenty-eight years' cycle of the sun (dominical letter), the Metonic or nineteen years' cycle of the moon (golden number), and the fifteen years' “cycle of indication” (Roman taxation period). In the year B.C. 4714 the figures of these three cycles were 1, that is to say, they then all three began together,—a conjunction which cannot again occur until the year A.D. 3266.

B.C. 4682. — The spring equinoctial colure having passed entirely from the zodiacal constellation Gemini, enters Taurus.

B.C. 4500.—Drawing to a close the principal western migrations of the Indo-European tribes. Before this time were probably occupied the “lands of settlement,” wherein took place the development of the Iranian races, comprising Bactrians, Sogdians, Bamians, Farsis, &c. According to the generally-received interpretation of the first fargard of the Vendidad, Bactria was the fourth “land of

in question a human skeleton was discovered. (Geology and Palæontology in connection with Human Origins, by W. Usher, M.D.: *Types of Mankind*, by Nott and Gliddon, p. 338.)

settlement" of the Indo-European tribes. Of all the emigrants from Aryana Vaedjo, the Iranians retained most vividly the memory of the fatherland. The relationship which is traceable between the two most prominent eastern branches of the Indo-European family, namely, the Iranian and Indian, has its counterpart in that which appears to have subsisted between two of the western branches, namely, the Italic (Pelasgian) and the Hellenic.—See B.C. 6500, II; 6000, 1-3; 5000, I; 4000, I, 1-3; 3000, 4; 2750; 2500, I; 2390; 2000, I; 1500, I.

B.C. 4455. 1.—Union, in one-kingdom, according to the extant fragments of Manetho's Egyptian history, as interpreted by Brugsch, of Upper and Lower Egypt, under the dominion of Menes or Mena, the "established," who was the reputed author of the first code of laws, and, like all succeeding Pharaohs, claimed to be "son of the sun." In these respects, as well as in the matter of the similarity of name, Mena may lay claim to some remote connection with the Sanskrit legends relating to the great Hindu legislator Menu or Manu, "son of the sun," as well as with the Cretan law-giver Minos, the Lydian hero Manes, and the Mann or Mannus of Celtic and German mythology.

2.—The founder of the Egyptian empire belonged to the ancient city of Abydos (Abu-this), which was his first capital, and where was situated the celebrated temple dedicated to Osiris, whose foundation, in all probability, goes back to pre-Menetic times. In this sanctuary would seem to have been deposited the chronological records of the kings of Egypt, commencing with Menes. It was here that was found by Bankes, in 1818, the celebrated "table of Abydos," now in the British Museum, containing certain royal names to the number of thirty (originally seventy-seven) selected by Seti I., its author, from among his predecessors, which, so far as it goes, is confirmatory of the lists of kings which have come down, through Eusebius and Julius Africanus, from Manetho. Here, also, was discovered, in 1867, by Mariette-Bey, Director-General of the Board of Conservancy of the Monuments of Egypt, a second table, the counterpart of Bankes's, but possessing, most fortunately, the opening portion, containing the name of Menes, in which the latter is defective. Further confirmation of the position in history assigned to Menes by Manetho, has been obtained from the discovery which was made, some few years earlier, by Mariette-Bey, to the south of the great pyramid of Sakkarah (the cemetery of ancient Memphis),

in the undisturbed tomb of the priest Tunar-i, who lived in the time of Rameses II. (B.C. 1407—1341), of a third royal table, wherein the first six dynasties are almost as complete as in Manetho's lists. These several tables are, moreover, confirmed by the ancestral tablet of Thothmes III., which was formerly in the Hall of Ancestors, at Karnak, but has been removed to Paris by Prisse d'Avenne, as regards the points of contact between them, and also by the Turin papyrus, to as great an extent as could be expected from so mutilated a document.

3.—Great interest is attached to the Sakkarah confirmation of Menes' place at the head of the Pharaonic dynasties, because he was the traditional founder of Memphis, where he is said to have erected the great metropolitan oracular temple of Ptah, "the Revealer," under which name, as under that of Amun, in the upper country, the supreme Deity was worshipped in Lower Egypt. The site of Memphis, which is identified by the remains of the colossal monolithic statue of Rameses II., erected by himself in front of the temple of Ptah, is to this day called by the Copts T'el-momph, a name which contains the elements of the original words Men-nophri (fair-dwelling,—*Belleville*), and perhaps, also of Men-apis or Menevis (Mnevis), "House of Apis," another name connected with the worship of the bull, in much the same way as does Noph, the Biblical name of Memphis. Among the Arab population of Egypt, however, who have, as a general rule, followed the nomenclature of the Romans, the central site of Memphis, where the colossus of Rameses II. marks the position of the temple of Ptah, bears the name of Mitranieh, which, considering the remarkable affinities traceable between the Egyptian God Ptah and the widely-worshipped Divinity Mitra or Mithra, would almost warrant the conclusion that in Roman times the great temple of Memphis was styled Mitraneum.

4.—The vast extent of the Memphian cemeteries, and the subjects depicted in the tombs, prove the ancient capital to have been a most venerated place of sepulture, whither the dead were conveyed by boat from all parts of Egypt, in the same way as has been shown by the travellers Loftus and Taylor was the case with Warka in ancient Chaldea (Lower Babylonia). Menes is said to have obtained the site on which he built Memphis by turning the course of the Nile eastward, by means of a great barrier; and Linant-Bey has discovered traces of such a barrier at a place two miles south of Tel-momph, which is a most interesting confirmation of the Mane-

thonian record. (Brugsch : *Histoire d'Egypte dès les premiers temps*, p. 17.—See B.C. 5004 ; 3843, 3.)

B.C. 4292. 1.—Brought to a close the reign, in Egypt, of Uenophes, fourth monarch, of the first dynasty, who, according to Manetho, built the pyramid near Kokome. The name Kakem having been found on a tablet in the Serapeum at Memphis applied to that part of the necropolis which lies immediately to the north of the stepped pyramid of Sakkarah, it has been legitimately inferred that this monument, now known in the vernacular as the Haram-el-Madarrggeh, is the Kokome pyramid. This inference is supported by the occurrence of the title and banner of a very old king in a hieroglyphical inscription (now in Berlin), which was discovered on one of the doorways leading out of the central chamber or hall. If it be correct, the pyramid of Sakkarah must be considered the most ancient monument of known authorship, and the inscription in question the oldest specimen of epigraphy in the world. The characters are beautifully formed, and bear the marks of belonging to a thoroughly established system of writing.

2.—The Sakkarah pyramid is remarkable for several peculiarities. It is built in five great steps or stages, somewhat like the Birs-Nimrud and other towers of Babylonia. From the central hall many intricate passages lead outwards to small chambers. These passages are lined with glazed tiles enamelled in green, blue, and black colours, and fixed to the wall with cement so tenacious as to prevent their being removed without breaking. Fragments of an alabaster sarcophagus were found by the French in 1836, in the principal chamber. The pyramid itself, unlike all others in Egypt, stands on a base which is not a true square, and the sides of the square do not face the cardinal points. (*Sur les Monuments qui entourent les Pyramides de Gizeh*, par Nestor l'Hôte : *Journal des Savants*, 1841, pp. 50-58 ; Paris.)

B.C. 4246.—End of the reign, in Egypt, of Usaphaidos (Usapti), fifth king of the first dynasty, in whose time were composed the principal chapters of the "Book of the Dead." This most important composition, a copy of which, as a sort of burial certificate, was placed in the coffin of every deceased person, is by far the most frequently-found of all Egyptian writings. Few collections of Egyptian antiquities are without one or more

copies. Many have been deciphered. "However they may differ in matters of details, all agree in placing in the very clearest light the ancient belief of Egypt in the immortality of the soul, rewards and punishments after death, a judgment according to which these retributions were awarded, and the practice of intercessory prayer for the deceased that the judgment might be propitious."* The Book of the Dead, like our burial service, was apparently a manual for the use of the priests, consisting principally of passages from the Egyptian holy scriptures relating to the future life, judgment to come, and the resurrection. Its object, which was entirely practical, was to give directions for preparing here for death, and for securing salvation hereafter. The use thus early of this ritual implies that the Osirian mythology, which was the real vital religion of Egypt, was already formed. To what length the Funerary Ritual extended at this time is not known; but in the form which it ultimately assumed, it consisted of 166 chapters. (*Le Rituel funéraire des anciens Egyptiens*, par Charles Lenormant; Paris, 1862. *Description of the Papyrus of Nas-Khem*, by Samuel Birch; Lond., 1863.)—See B.C. 2812, 4, sq.

B.C. 4245.—Creation of the heavens and the earth according to the chronological indications contained in the Samaritan Pentateuch.—See B.C. 4004, 1; 3761, 2.

B.C. 4125. 1.—Termination of the reign, at Abydos, of Kaechos (Kakau), second Pharaoh of the second dynasty. From this period, according to Manetho, dated the introduction into public worship, (or, in all probability, more properly, the official recognition therein,) of sacred animals as representatives of certain Divinities, and in particular of the bull, which, under the names Apis and Mnevis (Men-Apis), was regarded as the visible incarnation, or bodily habitation, of the great mystic deity, Osiris (Hesiri), ruler in the realm of the departed, and "judge of quick and dead."

2.—Every bull, however, was not considered to be fit for the inhabitation of the God. To be so qualified, it was required at its birth to be distinguished by certain peculiar and rare marks. "He is black, with a white spot or star on his forehead, and on his back

* The Gentile and the Jew in the Courts of the Temple of Christ, by J. J. Ignaz von Döllinger, vol. i, p. 462; Lond., 1862.

the figure of an eagle; the hairs on his tail are double, and there is a beetle upon his tongue." (Herodot. iii, 28.) When such a bull-calf was found, he was looked upon as "the living Apis," or Anch-Api, and was immediately consecrated to Osiris as the calf of God. Maintained for the rest of his life within the precincts of the Serapeum, he was, at his death, embalmed, deposited in his own new tomb, wherein was never yet body laid, and canonized as "the deceased Apis," under the name Hesir-Api, which by the Greeks was written Serapis. In the Serapeum of Memphis, recently explored by Mariette-Bey, there has been brought to light a vast series of Apis mummies, which long ages of uninterrupted rites could alone have accumulated.

3.—The myth explanatory of the Osirian incarnation was remarkable. The good and beneficent (*χρηστός*) God, Hesir-On-nofri, "Osiris, the goodness of God manifest" (Plut. de Is. et Osir., 42), had, according to the Egyptian priests, appeared on earth among mankind, and for their salvation had condescended to take the humble form of one of the lower animals, and to be born in a stable or cowhouse. By a special miracle, the cow which had given birth to a calf, announced to be Apis by the star and other sacred marks, remained a virgin, Ptah, the divine creative power, having taken the form of a celestial ray in order to fecundate her. (Herodot. iii, 28.) This prodigy, peculiar to Memphis and Heliopolis, was supposed to be repeated at the birth of each Osirian calf; but was regarded as only a confirmation of the previous incarnation of Osiris in person, which had taken place long before, and formed, with his death and resurrection, the fundamental truths of the national faith of Egypt.

4.—As practised in Egypt, where, perhaps, it was more completely organized than in any other country whatever, animal-worship did not, at least in early times, take the form of the general adoration, throughout the whole kingdom, of many sacred animals, but shaped itself into the adoption, by certain districts or nomes, of particular animals, which thus played the part of clan-badges or public heraldic insignia; somewhat like the eagle of Imperial Rome, the bear of Berne, the lion of Scotland, and the cock of the first French Republic, with this in addition in the case of Egypt, that the badge-animal had there associated with it a paramount religious import. The deep root which this remarkable superstition had in the latter country, was, perhaps, due to some amount of Nigritian element in the Egyptian population; but the grounds on which certain

animals acquired their sacred character are now as little understood as is the reason which the Hebrews may have had for sacrificing the lamb to Jehovah at a particular festival. Animal-worship had evidently a close relationship to animal sacrifice, or the offering of animals as food to the spirits or Gods, which has generally been considered of more efficacy than the offering of inanimate things, as is denoted, in the Biblical story of Cain and Abel, by the latter, whose sacrifice was preferred by God, being said to have been a shepherd.—See B.C. 10,000, 11; 1735; 1481.

5.—Animal-worship undoubtedly had its source in the fetish stage of civilization, wherein there prevails the idea that beasts, by metempsychosis, are often possessed by the spirits of deceased ancestors or chiefs, and that particular tribes as well as individuals have, in such animals, protectors, whose names they take, just as among the civilized moderns of the Roman Church, individuals are called after Christian saints who are supposed to have such persons under their special protection, and as European nations have had their patron saints. The use of the names of animals as the proper names or clan-terms of tribes, coincident with the belief in the transmigration of souls and the worship of ancestors' spirits, exists at the present day among several savage races; as, for instance, the North American Redskins, who have tribes of Snakes, Beavers, Foxes, &c., the Naga or Serpent races of the sub-Himalayan districts of India, the Veddahs of Ceylon, and some of the natives of South Africa, among whom, although fully-developed animal-worship may not be found, religious sentiments connected with certain animals display themselves in fear of some particular kind, or in objection to slaughter some other.

6.—Mr. Herbert Spencer has elaborated a theory of the origin of animal-worship which is almost the converse of the one put forward above. According to his view of the matter, animals were not primarily worshipped as the habitations of the spirits of deceased men, but only secondarily, when the metaphorical meaning of animal proper names having been forgotten, the animal itself became the object of the worship which had, in the first place, been paid to the spirit of a deceased person bearing the name of such animal. It is just possible that in some cases the worship of an animal may have come about in this way; but it is evident that to people who firmly believed in the presence among them of beasts possessing indwelling souls of deceased ancestors, no lengthy or

complex process was necessary to produce an animal worthy of adoration. From the worship of an individual animal by a tribe, the step is easy to that of other individuals of the same species, and then to worship of all the species. (*Fortnightly Review*, vol. vii (1870), pp. 535-50.)—See B.C. 10,000, 9, note.

B.C. 4020.—End of the reign, in Egypt, of Sethenes (Senta), fifth king of the second dynasty. The Ashmolean Library at Oxford possesses a tablet, with inscription and group of figures, from the tomb of a prophet attached to the religious service of this monarch, which in all probability is the oldest authentic piece of sculpture in existence. In execution it is not inferior to other things of the kind of even the best period of Egyptian art. (*The Story of Saneha*, by C. W. Goodwin, p. 13, n.; Lond., 1866.)

B.C. 4004. 1.—Creation of the heavens and the earth, according to the reading of the “received” Hebrew text of the Old Testament, which has been followed in the “authorized” English version, and with which the reading adopted by Josephus differs by 1684 years, in excess; that preferred by the Oriental Church, by 1505 years; that followed by the Church Council of Alexandria, by 1435 years; that of the Septuagint version, by 1386 years; that of the Samaritan text, by 241 years; and that fixed on by the Jews, by 243 years on the other side. This remarkable want of concordance among the current interpretations of the Word of God, furnishes, perhaps, one of the best answers that can be given to the objection that is sometimes raised to the long chronologies of modern investigators, namely, that they do not agree in their interpretation of archæological and historical data. When the attempt to put together consistently the detached utterances of Holy Writ, in reference to time,—utterances which have a definite object, and are separately only too distinct,—leads to such great divergence, it must be evident that complete harmony is not to be expected between the various systems of chronology proposed by independent writers, which, at best, are but provisional arrangements, in sequence, of events whereof, in many cases, only vague and uncertain traces have been left.—See B.C. 5004, 4; 3761, 1.

2.—The absence of all mention, in the Pentateuchal cosmogony, of Hell and its creation, must not be taken to imply that the infernal regions were foreign to the system of which that cosmogony was

but an imperfect rendering. On the contrary, the belief in Hell or Hades, which can be shown to have been entertained by the principal peoples with whom the Hebrews came in contact, must also have been familiar to the latter. It was, in fact, necessarily included among the cosmical notions which were universally prevalent in primitive times, namely, that the earth was a plane or flat expanse (Is. xlii, 5 ; xlv, 24), surrounded by the "great deep" or boundless sea—with its flood-gates or "fountains" (Gen. vii, 11); covered in by the dome of the firmament,* wherein were "windows" (Gen. viii, 2) and "bottles" or spouts (Job xxxviii, 37), and whereon the sun and planets travelled ; and having underneath a region which, as regards situation, was the counterpart of the heavenly realms above the firmament. Separated, however, to all appearance, from the light of day, this nether world appeared fitted for a totally different order of creatures from man with his bodily organs. For the souls of the deceased some dwelling-place or other was wanted : these "lower parts of the earth" might be supposed well calculated for their reception. A region of darkness, nevertheless, whence volcanic flames were thought to issue, whither gloomy caves and chasms were seen to lead, rivers to descend and disappear, wherewith the unknown depths of the sea appeared to communicate,† and wherein the very sun himself, on descending below the western horizon, became pale and dark,‡ was associated with innumerable terrors, which, though appropriate for the wicked and profane, were hardly suited for the good and virtuous. But it was evident that the sun after sinking in the sea and losing his splendour in these subterranean regions, rose again, through the same circumambient element, to illuminate and warm with his radiance the realms above the firma-

* This idea is well illustrated by a popular notion, which is widely diffused among a great variety of peoples, namely, that the world, composed of flat earth, and vaulted firmament, with organic beings enclosed between, and suspended "in the midst of the waters" (Gen. i, 6), is exactly figured by a turtle or tortoise, composed of arched upper shell resting upon the lower plate, with the living animal between, floating in the sea.

† It was by means of this communication that Odysseus was able to sail to Hades :—"With straining sails they scudded on all day, till sank the sun and all was dark, when they reached the deep-flowing ocean." (Odys. xi, 11-13.)—Cf. Plat. Phæd., 144 ; Virg. Geor. iv, 363 ; Æn. vi, 638.

‡ Osiris, in the Egyptian Hades or Kar-neter, was represented of a sombre bluish hue. As Pluto, among the Greeks, he was also supposed to be black, which is quite in keeping with the allusion to subterranean mining contained in the latter name.

ment. There then was placed Heaven, the "House of God," (Gen. xxviii, 17); the ascent thereto being supposed to be effected through the waters and in the company of the sun, who thus came to be regarded as the Saviour God, as well as the King who sat on the throne in Hades, judging the souls of the departed. (Rev. xx, 11 xxi, 5.) No portion of primitive theology has so profoundly influenced the creeds of mankind as this heliolatrous belief, which can be traced in all religious faiths above rude fetishism. It is referred to by Plutarch, in connection with the function, in the world to come, of the great solar and Saviour God of Egypt, when he says, "The vulgar conceive that the pure and holy Osiris went under the earth among those that appear to be dead." (De Is. et Os. 99.) It likewise crops out in the apostolic *dictum*, "Now that He ascended, what is it but that He also descended into the lower parts of the earth." (Eph. iv, 9.) And again, in the expression "He descended into Hell," which is found in one of the Church creeds, it has survived to the present day in the religious faith of Christendom.

3.—The original connection which subsisted between the belief in Heaven and Hell, as definite localities, and the rude cosmical notion of a flat earth, covered by a solid vault and surrounded by water, with a celestial region above and an infernal below, rarely fails to manifest itself in the writings of the ancients, whenever they make any detailed allusion to those regions, whose triple arrangement is so clearly indicated by the three classes of Roman Divinities, "*Dii cælestes, terrestres et inferni*." Nowhere is this more evident than in Holy Writ, in certain passages of which, such as the following, the relative situation of Hell, with its superimposed subdivisions, in respect to earth and Heaven, is plainly expressed:—"For a fire is kindled in mine anger, and shall burn unto the lowest Hell, and shall consume the earth and set on fire the foundations of the mountains." (Deut. xxxii, 22.) "Sing, O ye Heavens, for the Lord hath done it; shout, ye lower parts of the earth." (Isaiah xlv, 23.) "Though they dig into Hell, thence shall my hand take them; though they climb up to Heaven, thence will I bring them down." (Amos ix, 2.) "Caught up to the third heaven,"—"into Paradise." (2 Cor. xii, 2, 4.) "And every creature which is in Heaven, and on the earth, and under the earth, and in the sea." (Rev. v, 13.)

4.—At the present day, the general dissemination among the public of the knowledge of the earth's true position in the system of the

universe, by dissipating the groundwork of the belief in question, has converted an apparent cosmical reality into a mere theological dogma. The idea of Heaven and Hell, as definite localities, situated the one above and the other below the habitable earth, which was completely consistent with the primitive notion of the world, as a great platform fixed in the centre of creation, with all else subordinate to it, is no longer in harmony with the teaching of cosmology and astronomy. Formerly, those regions occupied, in the popular mind, a position which may be compared with that now held by the terrestrial poles. Though not hitherto seen by any one, those portions of the earth's surface are as firmly believed to occupy the positions assigned to them by geographers, as if they had been visited and minutely described. But, at the present day, in all countries where culture has made any progress, belief in Heaven and Hell has dwindled down to a hazy impression that they exist in some vaguely distant, unknown, and undefinable regions of space. The expressions "above" and "below," nevertheless still survive as descriptive of them, affording evidence of the primitive character of the system to which they belong; just as the same words which formerly correctly described the relative position of passages in a written scroll, continue to be employed, although the arrangement wherein their use originated, since the universal adoption of books in leaves, no longer prevails.

5.—It was, perhaps, on account of the supposed communication by sea between the earth and the regions below, that Neptune was classed among the infernal Divinities, and that, as is stated by Plutarch (*Sympos.* iv, q. 4), he was always connected in worship with Ceres, one of the great chthonic or underground Deities, whose functions related to salvation from Tartarus or the depths of Hell. The cross with which Neptune and other marine Divinities were so commonly associated, especially in Romano-Celtic countries, probably had reference to the crossing through the sea from the earth to Hades. A remarkable instance of this connection was brought to light, by Mr. Baring-Gould, in the year 1850, in the remains of a Roman palace at Pont d'Oli (*Pons Aulæ*), near Pau. The tessellated floor of one of the halls represented a gigantic cross (19 feet 8 inches by 13 feet), filled up with the bust of Neptune and his trident, and in another room six varieties of cross were found repeated no fewer than twenty times. (*Curious Myths of the Middle Ages*, by S. Baring-Gould, p. 341; Lond., 1869.)

6.—In many religions, Christianity included, the sacred import of the fish, as likewise that of water, rocks, &c., is also probably referable to the primitive belief that a marine communication existed between the earth and the other world, and that the only path whereby the souls of the departed could reach Elysium was by water, fishes being, naturally, supposed to have the power of traversing in safety the aqueous medium. Isis, a chthonic or underground Deity, was associated with the fish, as may be seen in a bronze statuette in the Meyer Museum, at Liverpool. The fish was connected with salvation through water in the Babylonian fable of Oannes or Anu, as well as in the cognate Hindu myth of Manu's Deluge. The Hebrew story of Jonah and the fish, no doubt, had the same significance. Joshua, "the saviour," was the son of Nun (the fish); and Peter, the Rock of the Church and keeper of the gate of heaven, was the son of Jonah (Matt. xvi, 17) and a fisherman of Bethsaida (Fishtown)* In a considerable number of the miracles of saving which were done by Jesus, fish and water performed important parts; the feeding of the multitude with bread and fish on two occasions, the miraculous draught of fishes, and the walking on the water, being such. The symbol by which Jesus, "our Saviour," was most commonly denoted among the primitive Christians was the fish, whose original import was quite independent of that which was afterwards perceived in ἸΧΘΥΣ, the Greek word for fish, namely, the initial letters of Ἰησοῦς Χριστὸς Θεοῦ Υἱὸς Σωτήρ (Jesus Christ God's Son Saviour).—See B.C. 4000, III. 5; 2834, 3.

B.C. 4000.—I. 1.—In the course of evolution among the tribes remaining in Aryana-Vaedjo, and now become agricultural, the earlier of the sacred hymns, which, after being orally transmitted through long ages, were finally reduced to writing, in the Hindu branch of the Indo-European family, forming the basis of the first and most venerated of the four Vedas or principal books of Sanskrit Holy Scripture, namely, the Rig-Veda. The inspired writer Vyasa is credited, by tradition, with the compilation of this, as well as

* There was, probably, more of import than appears in the curious way wherein the fourth Gospel (xii, 21) emphatically, yet with apparent irrelevance, states the apostle Philip to have been of Bethsaida; and a suspicion of the same kind arises with regard to the contrast made, in the first and third, of Chorazin, the "oracular rock" (*tsor*, rock, and *asan*, to answer as an oracle) and Bethsaida, with Tyre (*tsor*, the "rock") and Sidon (*saida*, the "fish").—Matt. xi, 21, 22; Luke x, 13, 14.

the other three Vedic books, styled, Yajur-Veda, Saman-Veda, and Atharva-Veda, all four being considered the special Word of God.

2.—The study of this very antique literature has thrown much light on the condition of the tribes amongst whom the Vedas originated. One of the most succinct statements of the results obtained occurs in a valuable work by Professor Whitney, of Yale College, U.S. "They were not merely nomadic," says this judicious orientalist, "but had settled habitations, even towns and fortified places, and addicted themselves, in part, to the cultivation of the land. They possessed our chief domestic animals—the horse, the ox, the sheep, the goat, and the pig, besides the dog; the bear and the wolf were foes that ravaged their flocks; the mouse and fly were already their domestic pests. The region inhabited by them was a varied one, not bordering upon the ocean. The season whose name has been most persistent, was winter. Barley, and perhaps also wheat, were raised for food and converted into meal. Mead was prepared from honey, as a cheering and inebriating drink. The use of certain metals was known; whether iron was one of them admits of question. The art of weaving was practised; wool and hemp, and possibly flax, being the materials employed. Of other branches of domestic industry little that is definite can be said; but those already mentioned imply a variety of others, as co-ordinate or auxiliary to them. The weapons of offence and defence were those which are usual among primitive peoples—the sword, spear, bow, and shield. Boats were built and moved by oars. Of extended and elaborate political organization no traces are discoverable; the people was, doubtless, a congeries of petty tribes, under chiefs and leaders rather than kings, and with institutions of a patriarchal cast, among which the reduction to servitude of prisoners taken in war appears not to have been wanting. The structure and relations of the family are more clearly seen; names of its members, even to the second and third degrees of consanguinity and affinity were already fixed, and were significant of affectionate regard and trustful inter-dependence. That woman was looked down upon as a being in capacity and dignity inferior to man, we find no indication whatever. The art of numeration was learnt, at least up to one hundred. Some of the stars are noticed and named; the moon being the chief measurer of time."*

* *Language and the Study of Language*, by W. D. Whitney, p. 207; New York, 1867.

3.—Their religion consisted in the adoration of “the elements,” celestial and atmospheric phenomena, and the heavenly bodies, or rather of the spiritual beings whom they, like other peoples in the same primitive stage of culture, considered to inhabit or rule them. These chiefly were: Agni (fire), Vayu (air), Apam (water), Prithivi (earth), Meruts (the winds), Jama (darkness), Ushas (the dawn), Varuna (the firmament), Indra (the varying canopy of the sky), Dyaus (the shining or starry heavens), Mitra (the solar radiance), Surya (the orb of the sun), Devas (the planets and stars individually), Soma (the moon). The names given to the objects of their worship were probably at first merely adjectives, denoting qualities, such as, “the brilliant,” “the penetrating,” “the strong,” &c., and not truly substantive appellations, as they afterwards became in Sanskrit and kindred tongues. Thus Dyaus, which primarily signified only “shining,” gave rise to the principal name for God in most of the Indo-European languages*: as for instance, Ζεύς, Deus, Dieu, Deity. As regards essential religious tenets, the primitive Aryans, it is certain, held those which are common to all religions and to all human races, collectively considered. The immortality of the soul or spirit was a fundamental article of faith (Rig-Veda, i, 144, 6); the judgment to come, with its rewards and punishments, was supposed to await all after death (Rig-Veda, i, 125, 56); the spirits of the just were believed to go to heaven and to dwell with the Deity as saints or Gods. (Rig-Veda, i, 24, 1; x, 15, 16). (*Les Origines Indo-Européennes*, par Adolphe Pictet; Paris, 1859.) See B.C. 6500, II.; 6000, 3; 5000, I.; 4500; 3000, 4; 2750; 2500, 1; 2390; 2000, 1; 1500, 1.

II.—Arrival in China, from the north-west, of the “Hundred Families” of dark-haired people, who, according to Chinese tradition, by commingling with the autochthonous Miao-Tsze, or Children of the soil, at this time in a savage state, formed the nucleus of the Chinese population.—See B.C. 3461, 2637, 2358, 2297.

III. 1.—May be presumed to have been flourishing in the political condition of separate tribes or principalities, such as it would seem have always existed in Arabia, the communities which

* By a reverse process of thought, the heavens are sometimes put for God, as in the exclamation, Good Heavens! which not very long ago was so much in vogue.

inhabited the land of Sumir or Shinar, with Uruk or Erech, now Warka, for leading city,—Uru, now Mugheir, Larsa, now Senkereh, Nipur, now Niffer, Sippar, now Sura, and Babil, then Dindur, being next in importance. One of the chief peculiarities of this land was the great variety of race of its inhabitants. Lying within easy access of several of the great centres of primitive population, and containing by far the most extensive tract of alluvial soil to be found in Asia, west of the Indus, Sumir or Shinar, especially in its lower districts, by reason of its extraordinary fertility, must very early have attracted the dwellers in less favoured countries, when they began to assume agricultural habits. Soon became congregated there, in large numbers, men of the races which occupied the surrounding regions, such as : northward, Turanian tribes from the highlands of Armenia, the Caucasus and the more distant Ural mountains ; southward, roaming swarms of Arabo-Cushites from the coasts of the Red Sea and Persian Gulf, the borders of Ethiopia, the valleys of Arabia, and even from the confines of Egypt ;* westward, Syro-Arabian Semites from the heights of Chanaan (land of “the four tribes”), Lebanon and Taurus ; and, eastward, incomers from the uplands of Mount Zagrus and the wilds of Elam and Susiana (Khuzistan). (*Histoire ancienne des Peuples de l'Orient*, par G. Maspero ; Paris, 1875.)

2.—This concourse of races on the plains of Sumir, and the consequent diversity of the languages used by them, are no doubt signified by the Biblical tradition of “the confounding of the tongues of the whole earth,” and distinctly mentioned in the extant fragments of Berosus, wherein it is stated that in Babylonia “there was [in the earliest times] a great resort of nations who inhabited Chaldea and lived in a lawless state.” Of those races the most important seem to have been two, of which one was of Turanian or, in the language of the inscriptions, Accadian, and the other of Arabo-Cushite stock, the former having been apparently the first settlers. The earlier Babylonian and Assyrian inscriptions are throughout in a language having much affinity with the Uralo-Finnic dialects of the present day, except the names of kings and chiefs which are in a Syro-Arabic or Semitic tongue, the later inscriptions being wholly in the latter. The characters in which both were written, namely, the cuneiform, like all others whose origin can be traced, were primarily ideographic or pictorial, having become

* It was said in Egypt that Belus and the Babylonians were an Egyptian colony.—Diod. Sic. i, 28, 29.

syllabic, secondarily, when the inconveniencé of ideograms came to be felt. Those characters were used for writing the Semitic as well as the Turanian; but the syllabic sounds which they represented were contained in the Turanian words descriptive of the ideographic signs and not in the Semitic, thus proving that they were the invention of the Uralo-Finnic speaking people, who on that account alone may be considered, with certainty, to have been the earlier in possession of the country. There are grounds, moreover, for believing that at some remote time almost the whole of Europe and the larger portion of Asia were occupied by Turanians, in the character of aborigines. Their peculiar tongue has, apparently, left vestiges of itself in districts separated by long distances and vast populations having totally different forms of speech. In the southern provinces of India, the Dravidian languages, which belong to the Turanian family, are still the vernacular of large sections of the community; among the mountaineers of the Caucasus, (Tcherkess, Lesghi, Nogai, &c.) the various dialects in use are, with one exception, of Turanian character; and in the Basque Provinces of Spain the national tongue is the Escuara, which also is essentially Turanian. These are all actual survivals of a quasi-Tatar language, whose diffusion over the vast area embracing such far-apart regions must date from a very remote age; but, if the validity of a recently-advanced interpretation of the much debated Etruscan tongue be accepted, namely, that it also is Turanian, we have another instance, like that afforded by the Babylonian inscriptions, of written vestiges telling the same tale on the part of a long-defunct, but once powerful nation.—(*Etude sur l'Origine des Basques*, par J. F. Bladé; Paris, 1869. *Etruscan Researches*, by Isaac Taylor; Lond., 1874. *Corssen und die Sprache der Etrusker*, von Prof. Deecke; Strasb. 1875.)

3.—Towns and countries, like other things, had names both in Turanian and Semitic. Among such there occur, in the inscriptions two, namely, Accad and Sumir, which are often connected with the Royal title, as a specific designation of the Babylonian monarch, thus:—"King of Accadi and Sumiri,"*—bringing to mind the analogous style, "King of the Upper and Lower country," adopted by the Egyptian Pharaohs, and the dual expression, "Medes and Persians," used by the successors of Cyrus. It has been conjectured

* Accad is mentioned in the Bible (Gen. x, 10), and a town near Ctesiphon, of the name of Sumere, by Ammianus Marcellinus (xxv, 6).

that those names had reference to the two great divisions of the population ; the most accredited supposition being that by Accadi were meant the Turanians, and by Sumiri the Semites, or at least those who spoke the Assyrian vernacular or "home dialect" which, being nearly allied to Phœnician and Hebrew, undoubtedly was Syro-Arabic or Semitic.

4.—The following list, from Smith's Early History of Babylon, will afford some idea of the dissimilarity of the two languages :—

<i>Turanian Accadic.</i>	<i>Semitic Assyrian.</i>	<i>Modern Vernacular.</i>	<i>Biblical.</i>	<i>Classical.</i>
Ur-ki.	Accad.	.	Accad.	
Ki-in-gi.	Sumir.	Naharain.	Shinar.	Mesopotamia.
Lab-ki.	Uruk.	Warka.	Erech.	Orchoë.
Ur-lab-ki.	Uru.	Mugheir.	Ur.	
Ud-lab-ki.	Larsa.	Senkereh.		
Mul-lil-ki.	Nipar.	Niffer.		
Ca-dimirra.	Babilu.	Babil.	Babel.	Babylon.
Ud-kip-nun-ki.	Sippar.	Sura.		
Ninu-ki.	Ninua.	Koyunjik.	Nineveh.	Ninevi.
Num-ki.	Elamu or Mada.		Elam.	
Kiski.	Kisu.	Hymer.		
Mi-lu-ha-ki.	Kusu.	Itiopi.	Cush.	Ethiopia.
Ma-gan-ki.	Muzur.	Mizr.	Mizraim.	Egypt.

The Semitic names are in general translations of the Accadic. Thus, the name of Babylon in Assyrian as in Accadic means "God's-gate," Warka in both languages had a name signifying "City of the Land," while Mugheir in one as in the other, was called "The City," *par excellence*. Among the names of places and tribes Caldu or Chaldee occurs, but does not appear to have had any particular prominence till the ninth century B.C., when it is mentioned in Assyrian inscriptions as belonging to a small tribe located on the Persian Gulf. The Caldu however seem to have, subsequently, moved northward and acquired importance ; for in the reign of Merodach-Baladan they had become sufficiently powerful to make themselves masters of Babylon, and formed so preponderating an element in the state, as to give, from that time, their name to the greater part of the country.

5.—To whichever of the two sections of the Babylonian population the general civilization and religion of the country was due, it came apparently from the shores of the Persian Gulf, whence no doubt also came the "dynasty of the land of the sea" which is mentioned in a fragment of inscription discovered by Mr. George Smith. (Tr. Soc. Bib. Arch., iii, 367.) It was on that sea-board and at the "ship-

town" of Surippac that was built and launched the ark of Xisuthrus or Hasiradra, by means of which the animated creation was preserved from perishing by the Deluge. It was there also that originated or first became naturalized the myth relative to the "fish God" Oannes or Anu; for that curious marine Divinity was fabled to have come from out of the Babylonian Sea. According to Berosus, he taught the people of Babylon "to construct cities, found temples, and compile laws, and explained the principles of geometrical knowledge. He made them distinguish the seeds of the earth, and showed them how to collect fruits; in short, he instructed them in every thing which could tend to soften and humanize their lives."* A variant of this fable may be detected in the Hebrew story of Jonah or Jonas, and the Monster Fish. Jonas is evidently the same name as Oannes; but by one of those caprices in which mythology delights, Jonas is made to have been only in temporary union with the fish, and to have preached to, or taught the Ninevites, after he had come out of it; whereas Oannes was represented to be a permanent union of man and fish. Both Oannes and Jonas were, however, saving prophets or revealers of divine knowledge who proceeded out of the sea, to prophesy in Babylonia or in Nineveh. The reference to Nineveh contained in the Biblical story can only be satisfactorily accounted for, by considering the latter tale to be founded on the Babylonian myth; for the Jews had, obviously, no interest in the salvation of the Gentile and generally hostile Ninevites. That a very strong impression was made on the Jewish popular mind by the Oannes fish fable, is evident from the story of Tobit, the Angel, and the Fish, found in the Old Testament Apocrypha with the scene laid also at Nineveh. This was evidently one of many variants of the tale which had become current in Syria and Palestine.† In the obscure fable of the Syrian fish-goddess Derceto, who was mythologized to have given birth clandestinely to the Ninevite heroine Semiramis, may be discovered another.

6.—The association of the Palestinian town of Joppa and of Derceto with Nineveh, in these versions, which at first sight seems

* Ancient Fragments, by J. P. Cory: Beros. ex Alex. Polyhist., par. 3, 4; Lond., 1832.

† The influence of such myths may, perhaps, even, be traced in the form assumed long afterwards by some of the Gospel relations, representing Jesus as having, on repeated occasions, taught the multitude immediately after coming from the sea.—See Matt. iv, 21—24; viii, 23—ix, 6; xiv, 22—xv, 10.

strange, may, perhaps, be accounted for, by supposing them to have been derived from Phœnician sailors who were in the habit of navigating the Red Sea and Persian Gulf, as well as the Mediterranean. An ancient connection, moreover, existed between Babylonia and Joppa, to which Dicæarchus, as reported by Pliny, had alluded, in the mention made by him of the Babylonians having been sometimes called Cephenees from Cepheus, king of Joppa; and rationalizing the fable of Andromeda, saved by Perseus from a cetaceous monster, wherein Cepheus played a prominent part, the Roman author adds that it was evident the empire of Babylon had extended to the Mediterranean coast in the age of that king. (Plin. N. H. v, 14; vi, 35.) But the circumstance that the Andromeda myth itself, which was localised at Joppa, related to a threatened act of swallowing alive, on the part of a marine or fishy monster, was possibly alone sufficient, to cause the Hebrew hagiographer to bring the Palestinian seaport along with Nineveh, into his version of the Oannes fable. It is, however, worthy of remark that, as in many fables, the characters in this, namely, Cepheus, Andromeda, Cetus, Perseus, had the names of constellations, thus rendering it highly probable that the fable in question had an astronomical, or rather an astrological, basis; just as the so-called Izdubar and other Babylonian legends recently recovered by Mr. George Smith from the mounds of Assyria formed, apparently, part of a series of solar myths descriptive of the passage of the sun through the zodiacal signs and corresponding months. According to this surmise, Oannes would answer to amphibious Capricorn with the fish's tail, the sign of the Babylonian zodiac immediately preceding Aquarius and the corresponding watery month to which the celebrated Deluge tablets are supposed to refer.—See B.C. 4004, 6; 2834, 3; 2348.

7.—Until a comparatively recent period, Lower Babylonia or Chaldea, the chief seat of the ancient civilization of the country, was lost alike to accurate geography and history. It is principally to the travels and explorations of Rich, Layard, Loftus, Taylor, and others, supplemented by the advances which have been made in the art of deciphering and translating the cuneiform inscriptions, that we owe our present improved knowledge of the early inhabitants and institutions of that country. The labours of those explorers furnished the first direct confirmation of what had been reported by the ancients respecting the existence, in remote ages, in the region in question, of a numerous and wealthy people

well versed in all the arts of life. Most of the remains brought to light by Loftus and Taylor were sepulchral. Extensive districts at and around Warka (Uruk) were found to contain great accumulations of earthenware coffins, and to have been vast and venerated cemeteries to which the dead would seem to have been brought from distant parts, and probably by water, as we know was done in ancient Egypt. The custom of conveying corpses long distances, for sepulture in places of great reputed sanctity, is still kept up by the Shiah Mahomedans, who are in the habit of sending their dead even from the most remote regions of Persia, for interment at the holy city of Kerbela, which is situated not far from the site of Babylon. [(Narrative of a Journey to the Site of Babylon, by C. J. Rich; London, 1839. Travels and Researches in Chaldea and Susiana, by W. K. Loftus; Lond., 1857.)

IV.—Approximate age, according to Steenstrup, Forchhammer, Worsaae, and other Danish archæologists, of the lowermost strata of the refuse mounds, or kitchen-middens (*kjökken-möddings*), which have been discovered and investigated during the last twenty years on the Baltic coasts of Denmark and elsewhere. These remarkable deposits, some of which are 1,000 feet in length, with a breadth of 200 feet, and height of from 4 to 10, were long taken for natural mounds. With the exception of the layer of turf that covers them, they are now known to be entirely composed of oyster-shells, bones, and such-like refuse of human food, intermingled with implements of rough flint, bone, horn, and wood, fragments of rude pottery, morsels of charcoal, and the osseous remains of a dwarfish race of men. The non-human bones belong to animals such as the urus (*Bos primigenius* or gigantic bison), which have long since disappeared from those regions; none of them being those of the present domestic species of Europe, except the dog. The larger of the long bones are generally found longitudinally split in the manner adopted by savages for the extraction of the marrow. Refuse mounds similar to those of Scandinavia have been discovered in the north of Scotland, on the coasts of Devon and Cornwall, and also in some maritime districts of North and South America, Australia, &c. Their position on the shores of seas and estuaries would seem to indicate a dependence on the products of the sea for sustenance, like that which prevails in the inhabited parts of Melville Island, Labrador, Green-

land, and the coasts of the Arctic ocean. At the present day the Eskimo or Inuit as they call themselves, the Samoyeds and the Ostiaks, who manage to subsist in those inhospitable regions, dispose of their refuse much in the same manner as did, long ages ago, the authors of the Scandinavian and British kitchen-middens.*—(The Kjökken-möddings ; Recent Geologico-Archæological Researches in Denmark, by John Lubbock : *Natural History Review*, vol. i, pp. 489-504 ; Lond., 1861.)

V.—To this period have also been referred, by the Danish geologists, the fossil pine-trees which have been discovered underlying forests of oak and beech in the peat bogs of Denmark, and wherewith have been found flint implements of the neolithic class. With the superimposed oak-trees, which are separated from the pines by a layer of peat, bronze, instead of flint, implements only are found, showing that the change of vegetation was accompanied by a change in the arts of life of the men who were contemporaneous with the several floras. With the fossil beech-trees, again, which occur at a higher level, the implements are mostly of iron. The forests of Denmark are now almost exclusively composed of the latter trees, which was also the case in the days of the Romans. The oaks are supposed to have died out some 3,000 years ago. Their large size and the great depth of the peat under which they are buried, concur to indicate for them a very remote age. At a considerable distance underneath all, lie trunks of alder-trees, which are still more ancient. The latter are unaccompanied by vestiges of man.—(The Primeval Antiquities of Denmark, by J. J. A. Worsaae, pp. 9-10 ; Lond., 1849.)—See B.C. 2200.

VI.—Coincidence, at the autumnal equinox, between the major axis of the solar ellipse and the line of the equinoxes, which will not again occur in less than 15,062 years. By certain astronomers, of Biblical proclivities, this event has been considered to constitute an astronomical era corresponding in a remarkable manner with the time assigned, by the chronology of the “authorized version,” to the creation of man. (The Connexion of the Physical Sciences, by Mary Somerville ; Lond., 1835.)

* The savages of the Andaman Islands who live on the sea-coast, and subsist chiefly on turtle and shell-fish, have kitchen-middens.

B.C. 3978.—Close of the reign of Nephhercheres (Nefer-Kera), seventh Pharaoh of the second dynasty, wherein, as recorded by Manetho, the Nile was during eleven days mingled with honey. This fabulous relation, like so many other popular traditions, may be presumed to have originated in some phenomenon, which was described by a word that also signified honey. It brings to mind the Mosaic prodigy of the “turning of the waters of the Nile into blood,” which was an expression of somewhat the same kind, the word blood being put for redness, as we know to have been the case in the popular description of the annual reddening of the Syrian river Byblos, wherewith the legend of the wounding and death of Adonis was connected.

B.C. 3872.—Termination of the reign of Necherophes (Nebka?), first king of the third dynasty of Egypt. Manetho reports of this reign that during the course of it the Libyans revolted from the Egyptians, but submitted on account of some ominous appearance of the moon. The Libyans belonged apparently to the western or Libyco-Cushite branch of the Cushite race, which gave inhabitants to the extensive region at present known as Barbary, as well as to the Canary Islands. Their modern representatives are the various Berber races of North Africa, Kabyles, Sheluchs, Tuariks, &c., and the Guanches of the islands lying off the Atlantic coast. They were allied in race and language to the Arabo-Cushite populations, such as the Itiops, Himyarites, Khatanic Arabs, and other tribes settled on the shores of the Red Sea and Persian Gulf, and in the maritime districts of lower Babylonia. The Tuariks of the present day have retained evident traces of this connection, being said to make use of an alphabet closely resembling the Himyarik of southern Arabia. The Egyptians, who spread themselves along the Valley of the Nile, by their position, separated those two branches of the Cushite family, with both of which they had many affinities. (Prehistoric Nations, by J. D. Baldwin; Lond., 1869. Recueil d’Inscriptions Libycoberbères, par V. Reboud; Paris, 1870.)—See B.C. 7500, 7; 3795, 1, 4.

B.C. 3850.—Time whereabouts may be presumed to have been in the condition of young trees, the larger of the fossil cypresses (*Taxodium distichum*), of the Louisiana swamps, had they been still growing in A.D. 1850, instead of having been for

many ages deeply imbedded in the earth. Some have been found having a diameter of 10 feet. One of that size, dug up in excavating for the gasworks of New Orleans, in 1850, showed from 95 to 120 rings of annual growth per inch, which makes the age of that tree, at the time of its inhumation, 5700 years at least. Beneath the roots of one of those cypresses were found human bones. (Nott and Gliddon : *Types of Mankind*, p. 337.)—See B.C. 4790, note.

B.C. 3848. 1.—Period whence probably dated, according to Bailly and others, the earliest systematic observation of the stars, by some ancient people, from whom were derived certain astronomical institutions which the Western nations have inherited. Of these the hebdomadal reckoning of time, comprising the naming of the days of the week after the seven principal heavenly bodies and their dedication to the Divinities who were supposed to govern them, was one ; another being the mapping out of the stars into conventional groups or constellations, and especially those lying in the belt of the heavens (zodiac) through which the sun appears to take his course, and in the case of the latter the application to them of the names of persons or living creatures intended to be descriptive of the monthly stages of his progress. To whatever country may be due the institution of the week, there are very good reasons for attributing to Babylonia the invention of the zodiacal signs, and to Egypt that of the names of some of the more prominent stars, such as Sirius or the Dog, the appellations given to those asterisms corresponding more completely to their calendrical import in those than in any other countries. It is interesting to observe that the earliest writings which have been handed down from the ancients by transcription contain allusions to several of the more conspicuous asterisms. The *Iliad* makes mention of Pleiades, Orion, Hyades, and the Bear ; Hesiod's "*Works and Days*" of Pleiades, Orion, Sirius, Hyades, and Arcturus ; and the Book of Job, of Pleiades, Orion, and Hyades. (*Histoire de l'Astronomie ancienne*, par J. S. Bailly ; Paris, 1781.)—See B.C. 3285.

2.—The general diffusion in very early times, among certain portions of mankind, of a considerable amount of astronomical knowledge, would seem to be extremely probable ; and there is every reason to think that Babylonia was one of the earliest sources of it. "The decipherment of the inscriptions," to quote from an eminent authority, "has so thoroughly vindicated the

trustworthiness of Berosus that (notwithstanding the great antiquity which he assigns to Babylonian astronomy) we are inclined to credit the accuracy of the number of years given by him, corroborated as it is by other authors. On the whole we may look upon Berosus as accurately relating the belief of his countrymen upon the matter; and though it is impossible to accept the prodigious antiquity which he assigns to their star-gazing, we have yet been much impressed by the great age to which the testimony of the astronomical tablets which we have examined would throw back the beginning of a systematized and recorded astrology among the Babylonians. Thus, the event which followed each eclipse of the sun or moon, such as the death of the King of Elam, or a victory of the King of Accad, was noted down under the supposition that any other eclipse which took place at the same time in the future, would be accompanied by a similar event. Now the great astrological work which was drawn up for the Library of Sargon of Agane, in the 16th century B.C., contains a list of eclipses for every possible day throughout the year; and as each of these has some event attached to it, thus guaranteeing its reality, we may easily imagine to what an antiquity the records go back. It is probable that the work in question was used by Berosus.

“The reports quoted above, which refer to the vernal equinox, establish the fact that that period of the year corresponded with Aries. The Accadian calendar was arranged so as to suit the order of the Zodiacal signs; and Nisan, the first month, answered to the first Zodiacal sign. Now, the sun still entered the first points of Aries at the vernal equinox in the time of Hipparchus, and it would have done so since 2540 B.C. From that epoch backwards to 4698 B.C., Taurus, the second sign of the Accadian Zodiac, and second month of the Accadian year, would have introduced the spring. The precession of the equinoxes thus enables us to fix the extreme limit of the antiquity of the ancient Babylonian calendar and of the origin of the Zodiacal signs of the country.

“And so we break off where we began, with the division of time. Babylonian astronomy may have been rude and superstitious; it may have had in it little that we hold to be scientific; but so also was the alchemy of the middle ages. And just as out of the alchemy of our forefathers has arisen chemistry, so out of the astrology of Chaldea came, not only the observations which rendered possible the astronomy of Greece and modern Europe, but also the formation

of a calendar; and this one practical discovery—for discovery it was—is sufficient to secure for the star-gazers of Accad the respect and gratitude of succeeding generations! ”*

B.C. 3843. 1.—End of the reign, in Egypt, of Tesorthros (Tses-hor-tsa), second king of the third dynasty, who was distinguished for his proficiency in medicine, and patronage of literature and architecture. The existence of medical literature in Egypt at this early age has received confirmation from the discovery made in 1825 by Passalacqua, in an excavation near the Sakkarah pyramids, of an extensive hieratic papyrus of the time of Rameses II., full of recipes and directions for the treatment of a great variety of diseases, which is now in the Berlin Museum, and has been translated and commented by Brugsch. The introduction of the second part of this curious work distinctly states that it was to a considerable extent the copy of a then ancient MS., of the time of a predecessor of Sethenes or Senta, fifth king of the second dynasty, which had been accidentally discovered beneath the feet of a statue of Anubis, at Sechem (Letopolis), and copied under the direction of the head physician Neterhotpu. (*Notice raisonnée d'un Traité médical Egyptien*, par H. Brugsch, pp. 13, 14; Leip., 1863.)

2.—In connection with this Pharaoh, we have one of the very few precise statements relating to Egyptian chronology which the classics contain. In the scholium to a passage in the poem of Apollonius Rhodius (*Argon.* iv, 259–281), it is said that “Dicæarchus of Messena, in the first book of his work entitled the ‘State of Greece,’ had recorded that from the reign of Sesostri† to that of Nilus [last king of the 19th dynasty] there were 2,500 years, and from Nilus to the first Olympiad 436 years.” As the first Olympiad corresponded to the year 776 B.C., this would give 3712 B.C. for the date of the former of those kings. (*Schol. Paris. Cod.* 2727, ab H. Stephan. in ed. *Apoll. Rhod.*, p. 186; Paris, 1574.)

3.—Although the name by which Dicæarchus is generally represented to have designated the Pharaoh in question, was that commonly given, by the classical writers, to a personage who has been

* The Astronomy and Astrology of the Babylonians, by Rev. A. H. Sayce : *Trans. Soc. Bib. Arch.*, vol. iii, pp. 146, 147, 237, 238; London, 1873.

† Some copies have Sesortosis :—Cf. *Aegyptens Stelle in der Weltgeschichte*, by C. C. J. Bunsen, vol. ii, *Urkundbuch*, p. 73; Hamb., 1845.

made by them to combine in himself so many great deeds as to have acquired the character of a fabulous hero, there can hardly be any reasonable doubt that the king, to whom the authorities whence he derived his information had referred, was Tesorthros or Tseshor-tsa. The remoteness of the period assigned to him, namely, early in the Ancient Empire,* precludes the possibility of any of the kings of the New Empire, such as Thothmes III., Rameses II., or Rameses III.,—the Pharaohs usually identified with Sesostris,—having been intended. The only other monarch bearing a name which, with little corruption, might be rendered Sesostris in Greek, was Sesochris, eighth king of the second dynasty (B.C. 3930). None other than those two, in the lists of Pharaohs, bore a name which could be easily and naturally Hellenized into Sesostris. But Sesochris appears to have been remarkable only for the greatness of his stature, whereas Tesorthros was illustrious [as a legislator and patron of the liberal arts, and so eminent an authority in medicine as to have been called the Egyptian Æsculapius. The presumption, therefore, is that the second king of the third dynasty was the great Royal hero of the Ancient Empire.* Having this character, his name would soon become known abroad. Among the Greeks, who possessed little aptitude for strange tongues and took but slender interest in foreign affairs, it no doubt acquired a representative value, and as such gathered up and associated with itself many of the exploits of the kings of a later period. Tesorthros, in short, was the Sesostris of the Egyptians, that is to say, the only king they would have recognized under the latter name, in conversation with Greeks; whereas the Greek Sesostris was an ideal and compound hero, his name being formed from that of the second king of the third dynasty, and his reputation derived from the achievements of kings of the twelfth, eighteenth, and nineteenth dynasties.

4.—The value of the above casual reference to Egyptian history is very considerable. Dicæarchus, whose works, unfortunately, are lost, was a pupil of Aristotle and an author of great reputation, his "State of Greece" being reported to have been a model book full

* The history of ancient Egypt has been divided into three periods :—1. The Ancient Empire, from Menes (B.C. 4455) to the end of the XIth dynasty (B.C. 2812); 2. The Middle Empire, from the beginning of the XIIth dynasty (B.C. 2812) to the end of the XVIIth (B.C. 1706); 3. The New Empire, from the beginning of the XVIIIth dynasty (B.C. 1706) to the end of the XXXth (B.C. 340).

of geographical and historical facts. He wrote, moreover, previous to the time of Manetho, so that he is an independent witness, whereas writers of a later age may be suspected of merely echoing Manetho's statements. Considering that the years between Sesostriis and Nilus are put down in round numbers, Dicæarchus must be considered to corroborate in a remarkable manner the Manethonian record, as interpreted by those who adopt the long chronology. The position in Egyptian history which, by following Dicæarchus, would be given to Menes, namely B.C. 4353, differs only by 102 years from that assigned to him by the chronology of Brugsch, which, as has been said above, is the reckoning adopted in the present work for Egyptian matters.—See B.C. 5004, 5.

5.—The scholiasts have also reported that Dicæarchus, in his work on Greece, had declared Sesostriis to have been the first to introduce riding on horseback. It would follow from this that the horse was known in Egypt, almost from the beginning of the monarchy. If this be admitted, it will be necessary to find some other explanation for the non-appearance of the horse among the hieroglyphical signs of the Ancient and Middle Empires, than the late arrival of that quadruped in Egypt. Although the horse is not indigenous to Africa, it could not long be domesticated in Asia, where it is indigenous, without becoming known to the Egyptians, who to a great extent, if not entirely, were Asiatics by descent, and whose continued connection with Asia is proved by the fact, that from the very dawn of history the south of Arabia (Pun or Punt) was their "Holy Land," as well as by the extent to which they carried on the navigation of the Red Sea, where they maintained a powerful Royal navy, and found employment for a numerous merchant fleet. But the domestic ass, which there are good reasons for referring to an African source, in all times has been the common beast of burden in Egypt: except for war purposes, it better supplied the wants of the people than the horse. It, consequently, figures among the hieroglyphics of every age. At the time, however, when the hieroglyphical signs were fixed, which must have been antecedent even to the age of Menes (B.C. 4455), the horse was probably not in use. (*Sur l'Antiquité de l'âne et du Cheval comme animaux domestiques en Egypte*, par F. Lenormant: *Comp. Rend. Acad. Sci.*, t. lxix, pp. 1256-1258; Paris, 1869.)

B.C. 3795. 1.—Consolidation, in one state, of the various

communities inhabiting the land of Sumir or Shinar, under some powerful chief. With this movement has generally been connected Nimrod, the "mighty hunter," whose name has survived in that of the great ruin called Birs Nimrud, near the site of Babylon, which is supposed to be the remains of the tower of Borsippa. Many attempts have been made to identify Nimrod with one or other of the kings named in the cuneiform inscriptions, but none can be deemed satisfactory. The similarity of his name to that of the Nimr tribe* has caused him to be considered an eponymous hero of that race, who subdued the entire country, leaving traces of himself as the Ninus of the classics in connection with Nineveh, and as the Biblical Nimrod in connection with Borsippa. This supposition is perhaps as near the truth as the recently-advanced theory, which, by resolving the name Nimrod into Merodach, would make the "mighty hunter before the Lord" to have been no other than the Babylonian God, Merodach himself. If the question could be decided by the discovery of a name almost identical with that of Nimrod, it might perhaps be considered satisfactorily settled by the appearance, on a very early brick, of the name of the king Nin-ridu.† (Nimrod and the Assyrian Inscriptions, by Rev. A. H. Sayce: *Tran. Soc. Bib. Arch.*, vol. ii, pp. 243-249; Lond., 1873.)

2.—Whether Nimrod can be identified or not with some royal personage named in the cuneiform inscriptions, it may be safely presumed that he was, if anything more than a mere name, the head of the dynasty of eighty-six Babylonian kings, who, according to Berosus, reigned in succession over the first postdiluvian kingdom of Babylonia. Several circumstances concur to render it probable that those monarchs were Accadian. Taking this to be the case, it may be reasonably conjectured that they were the Scythian kings stated by the Roman writer Justinus (a historian, in general, very well informed) to have ruled in Western Asia during a period of 1500 years. The Scythian or Accadian dynasty was brought to a close by what Berosus, through mistaking *Mada*, an Accadic designation of Elam meaning "country," for Media, calls the Median conquest, which has been supposed to be the transaction mentioned by the Assyrian king

* Nimr was also the Assyrian word for the hunting leopard,—a circumstance which, by an etymologising error, on the part of the author of Genesis (x. 9), may have given rise to the idea that Nimrod was distinguished as a hunter.

† The Early History of Babylon, by George Smith: *Tran. Soc. Bib. Arch.*, vol. i, p. 32; Lond., 1872.

Assurbanipal, in the well-known cuneiform records of his reign, as having taken place 1635 years prior to his own capture of Susa, namely, the conquest of Babylonia by the Elamite king Kudurnan-huridi. That exploit of Assurbanipal having been performed about 660 B.C., the date of the Elamite conquest, by the addition of the above period of 1635 years, would be brought to the year 2295 B.C. When to this are added the 1500 years of the Scythian domination mentioned by Justinus, corresponding to the united reigns of the eighty-six early kings of Berosus,* we obtain the date B.C. 3795, for the beginning of Babylonia as a consistent state. (Manuel d'Histoire ancienne de l'Orient, par François Lenormant, vol. ii, pp. 2, 37; Paris, 1869.)

B.C. 3761. 1.—Creation of the heavens and the earth, according to the orthodox Jewish chronology of the Bible, which, of all Biblical chronological computations, is the most restricted, differing from that of Josephus by 1,927 years; from that of the Oriental churches by 1,748 years; from that of the Alexandrian era by 1,678 years; from that of the Septuagint by 1,629 years; from that of the Samaritan text by 484 years; and from that of the English authorized version by 243 years.

2.—The so-called "creation" was, in comparatively recent times, adopted by the Jews as a chronological era (*annus mundi*), and a date fixed for it from the summing up of the generations enumerated in their sacred volume. But the result obtained, besides being vitiated by the uncertainty that prevails as to the numerical data on which it is based, is in direct contradiction with the traditions which were current among some of the best-informed nations of antiquity, and utterly irreconcilable with the facts disclosed by palæontological research. Considering the immensity of the periods which the study of the heavens shows to be required by the astral bodies for their interdependent motions, it must be apparent that a few thousands of revolutions more or less can count as nothing in the career of any one of them. The "creation," which is only conceivable, if at all, as belonging to a past of infinite remoteness, could, therefore, hardly have been chosen for the basis of a definite chronology, except by a people in a very primitive stage of culture. It is humiliating to

* This would give an average length of reign of about 17½ years, agreeing sufficiently with the general experience of authentic history.—See B.C. 5004, 4.

reflect on the extent to which some of the best intellects have been betrayed into receiving with suspicion, and even into rejecting the annals of many ancient nations, as well as the testimony of the rocks and strata of the earth, because they could not be reconciled with the traditions which have been embodied in the sacred books of the Jews, notwithstanding that the latter people, until a comparatively late age, were extremely deficient in the arts of civilized life.

3.—In the early days of Assyrian exploration, when the unexpected recovery of authentic literary remains of an age coeval with the Jewish monarchy, and making mention of names and events whereto, till then, little or no reference had been found in Gentile literature, it was the fashion, in certain quarters, to magnify the value to religion of what the explorers, as instruments in the hands of Providence, had “done for the Bible.” Childlike in its faith in the Hebrew Scriptures, society came, as it were intuitively, to the conclusion that the Jewish writings being primary documents, whatever might be found in unison with them in the ethnic records, must be mere echoes of Holy Writ, and confirmatory of it. Fuller investigation of the voluminous inscriptions which have been preserved on the clay tablets of Assyria and Babylonia have, however, revealed the fact that, of the two sets of documents,—the cuneiform and the early chapters of Genesis,—the former have the better claim to priority; the inference being that, in every case wherein the one corroborates the other, the Gentile writings are to be considered those corroborated—thus relegating the Hebrew Scriptures to a subordinate position. But more than this, it is now well made out that neither of them are primary documents, both being, in their main features, derivative, and having a common origin in a more primitive Accadian literature.

4.—Foreseen by many from the first, this result has been, perhaps, more clearly perceived by the Rev. A. H. Sayce than by any other of the able Orientalists who have given their attention to Biblical archæology in connection with the cuneiform remains, as it certainly has been by him more distinctly stated. “Did the Hebrews,”—to quote his words,—“as well as the Assyrians derive their traditions of primæval times from the Accadians? And as the Old Testament is, besides the Assyrian inscriptions, the only existing monument of ancient Semitic belief, the question amounts to asking whether the Semitic traditions generally are referable to a Turanian source. Sir H. Rawlinson and other Assyriologues answer

in the affirmative, and I am disposed to agree with them. My reasons are the following: The Assyrians borrowed their mythology from Accad; such a borrowing is, therefore, possible in the case of other Semitic peoples. And this possibility is raised to a certainty in several instances in Genesis.* Two of the names of the rivers of Eden, Hiddekel and Gihon (Gikhhkan), are Accadic. An old name of Babylon, in Accadic, was E-ci or "Mound-town," while the Accadian princes styled themselves kings of "languages"; expressions making allusion, clearly, to the tower of Babel and the confusion of tongues. The most usual Accadian name of Babylon was Ca-dimirra, "Gate of God," a designation which explains why it was said (Gen. xi. 5), that "the Lord came down to see the city and the tower." Abraham came from Ur, and Uru was a name for the whole of Accad. The greater portion of the fourteenth chapter of Genesis is really Accadian history. Sisuthrus, the Assyrian Noah, had in Accadic the synonym of Anu, the "Primæval chief," but was more usually called Na. The Accadians set apart for rest the 7th, 14th, 21st, and 28th days of the months. The sacred tree, the serpent symbolizing the God of Life and Wisdom, and the winged figures or cherubim, all of which are represented in the Assyrian sculptures, were derived from the Accadians. Ganduni (*gan*, "district," *duni*, a noun proper), one of the names of Babylonia in Accadic, according to Sir H. Rawlinson, gave rise, by a false interpretation, to the Hebrew expression Gan Eden; Jewish tradition having identified Gan with גן, and changed the form of Duni so as to make it signify delight. True to the instincts derived from their nomadic parentage, the Semitic nations, moreover, have always been distinguished for receptivity rather than for originality. The Semites of Babylonia adopted from other peoples the rudiments of their civilization; the Hebrews could not conceal the fact that they had inherited largely of the "wisdom of the Egyptians"; while the Arabs, when military conquest had given them a prominent place in the Roman world, proved apt pupils in the science and philosophy of Greece. The several varieties of graphic characters used respectively by the Assyrians, the Phœnicians and Jews, and the Himyarite Arabs, appear to have been borrowed,—the first from Accad, the second from Egypt, and the third, perhaps, from India.

* The Origin of Semitic Civilization, by A. H. Sayce: *Trans. Soc. Bib. Arch.*, vol. i, pp. 299, 300; Lond., 1872.

5.—Whether the story of the “creation” be referable to an Accadian source or not, it had a place in the mythology of the Assyrians. Among the cuneiform tablets in the British Museum, some relating to the beginning of all things have been discovered by Mr. George Smith; and Mr. H. Fox Talbot has made a translation of two of them, which was read before the Society of Biblical Archæology at the meeting of February, 1876.* The following lines from the translation in question exhibit remarkable conformity with the Biblical relation :—

TABLET I.

1. When the upper region was not yet called Heaven,
2. and the lower region was not yet called Earth,
3. and the Abyss of Hades had not yet opened its arm,
4. then the chaos of waters gave birth to all of them.
5. And the waters were gathered into one place.
6. No men yet dwelt together, no animals yet wandered about,
7. none of the Gods had yet been born,
8. their names were not spoken, their attributes were not known.

TABLET V.

6. He made dwellings for the planets, for their rising and setting ;
11. In the centre he placed luminaries.
12. The moon he appointed to rule the night,
13. and to wander through the night until the dawn of day.
14. Every month without fail he made *holy assembly* days.
15. In the beginning of the month, at the rising of the night,
16. it shot forth its beams to illuminate the heavens.
17. On the *seventh day* he appointed a holy day,
18. and to cease from all business he commanded.
19. Then arose the sun in the horizon of heaven in (glory).

6.—Like other portions of Assyrian mythology and the more concise account of Genesis, “the creation tablets” are distinguished by a remarkable circumstantiality which, under the guise of matter-of-fact relation, was well calculated to produce an impression of reality. There is nothing of the emotional or ornate in them. The

* At the meeting of this Society held on 7th March following, there were read translations by Mr. Talbot of other tablets, containing a myth in which mention was made of the “flaming sword which turned every way” (Gen. iii, 24), and wherewith the Garden of Eden was barred to Adam after his expulsion and banishment to “the place from whence he was taken.”

people among whom they originated would seem to have had so little of the æsthetic in their composition that they related in detail the making and arranging of the universe as they might chronicle any ordinary event. In this respect they present a notable contrast to the Aryan race, whose accounts of the Creation were sung in true anthem strain, thus :—

“In the beginning there arose the source of golden light. He was the only Lord of all that is. He established the earth and the sky.—Who is the God to whom we shall offer our sacrifice ?

“He who gives life, He who gives strength, whose blessing all the bright Gods desire ; whose face is immortality, whose shadow is death.—Who is the God to whom we shall offer our sacrifice ?

“He who through His power is the only king of the living. He who governs all, man and beast.—Who is the God to whom we shall offer our sacrifice ?

“He whose power the snowy mountains and the sea proclaim with the far-coursing river. He of whom these regions are, as it were, his two arms.—Who is the God to whom we shall offer our sacrifice ?

“He through whom the sky is bright and the earth firm. He through whom the heavens were established,—nay, the highest heaven. He who measured out the light.—Who is the God to whom we shall offer our sacrifice ?

“He to whom heaven and earth, standing firm by his will, look up trembling inwardly. He through whom the rising sun shines forth.—Who is the God to whom we shall offer our sacrifice ?

“Wherever the mighty clouds went, wherever the sea was placed and warmth generated, there was He who is the only life of the bright Gods.—Who is the God to whom we shall offer our sacrifice ?

“He who by his might looked even over the clouds, the clouds which gave strength to light the sacrifice. He who is GOD ABOVE ALL GODS.—Who is the God to whom we shall offer our sacrifice ?

“May he not destroy us : He, the Creator of the earth ; He, the righteous, who created the heavens ; He who created the bright and mighty waters.—Who is the God to whom we shall offer our sacrifice ?” (Rig Veda, x. 121).*

7.—It was a most remarkable concatenation of events whereby

* History of Ancient Sanskrit Literature, by F. Max Müller, p. 569 : Lond., 1859.

the crude cosmical notions of a primitive Mongoloid population, which had remained buried in oblivion during many hundreds of years, came to be bound up with the religion of the most enlightened of modern nations in such a way that rejection of the former was considered tantamount to apostasy from the latter. It is obvious that there can be no direct connection between chronological appreciations and the ostensible objects of religion—namely, holy living and dying. The indirect connection which has been established between the two is evidently the result of a theory respecting the authorship of a literary composition, which could only have originated in a period of mental decrepitude. That period undoubtedly was the time when the civilization of the Greeks and Romans was swamped by the inroads of uncultured barbarians and the unchecked licence of popular superstition. The revival of letters which took place fully three hundred years ago has gradually led to the more or less complete emancipation of European society from the thralldom of ignorance in literature, art, science, and politics. There yet remains to be effected emancipation from the trammels which have been imposed on thought in the sphere of speculative philosophy. When the time arrives for its realization, this will prove the greatest conquest of all ; because the trammels in question give rise to prejudices which, in various degrees, unfit the mind for exercising an unbiassed judgment on the important matters which are included in the comprehensive science of sociology. The effect of those prejudices on the correct apprehension of the chronological questions involved in the notion of a "creation era" was clearly perceived by the late Baron Bunsen, whose weighty words well merit the attention of those who profess to be deeply interested in education. "Our present popular and school chronology," says this pious and learned writer, "is a fable strung together by ignorance and fraud, and persisted in out of superstition and a want of intellectual energy."*

8.—The untrustworthiness of the current chronology is not to be attributed, however, to the primary source whence were derived the early Genesis legends. If an opinion can be formed of the chronological system of the Accadians from the lists of dynasties and their duration transmitted by the Babylonian chronicler Berosus, it may,

* Egypt's Place in Universal History, by C. C. J. Bunsen, vol. ii, p. 440 ; Lond., 1854.

on the contrary, be safely affirmed that it was sufficiently wide to afford time for the evolution of races, languages, and institutions. To the medium through which the Accadian records were filtered, in their passage to modern Europe, was due the element of falsity wherewith they became imbued. That medium was the Jews, who appropriated and modified, in conformity with their inadequate Patriarchal traditions, the accounts which they had from the Babylonians and Assyrians; and, notwithstanding the absence among them, until a comparatively late age, of the political and other conditions necessary for the formation of authentic annals, were permitted, by reason of the apathy which superstition had engendered in the Roman world, to impose upon Christendom the distorted result in the guise of "Sacred history." But for the admission of this new factor, with its attendant theories of inspiration and revelation, whereby the status of all other accounts of human transactions has been reduced to the lower rank of "profane history," there would be nothing to hinder the acceptance as approximately correct, of the "long chronologies" which were universally current among all the really ancient nations, and which are constantly receiving confirmation from the historical and archæological investigations of the present day.—See B.C. 5688; 4004.

END OF THE PRIMÆVAL PERIOD.

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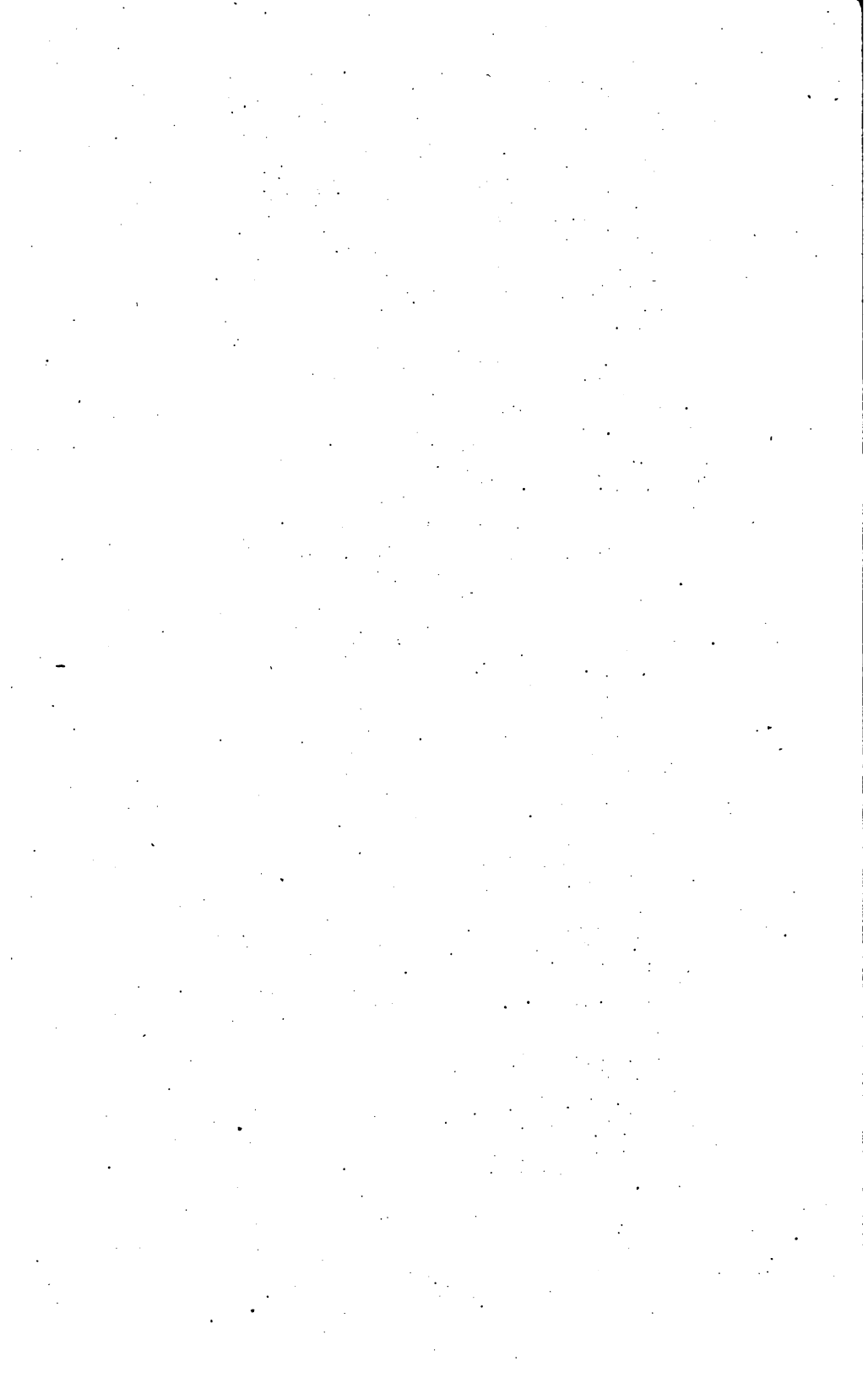
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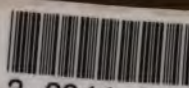
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